

ANNUAL REGISTER

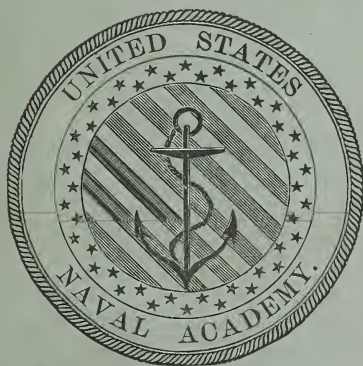
OF THE

UNITED STATES NAVAL ACADEMY,

ANNAPOLIS, MD.

FORTY-SEVENTH ACADEMIC YEAR.

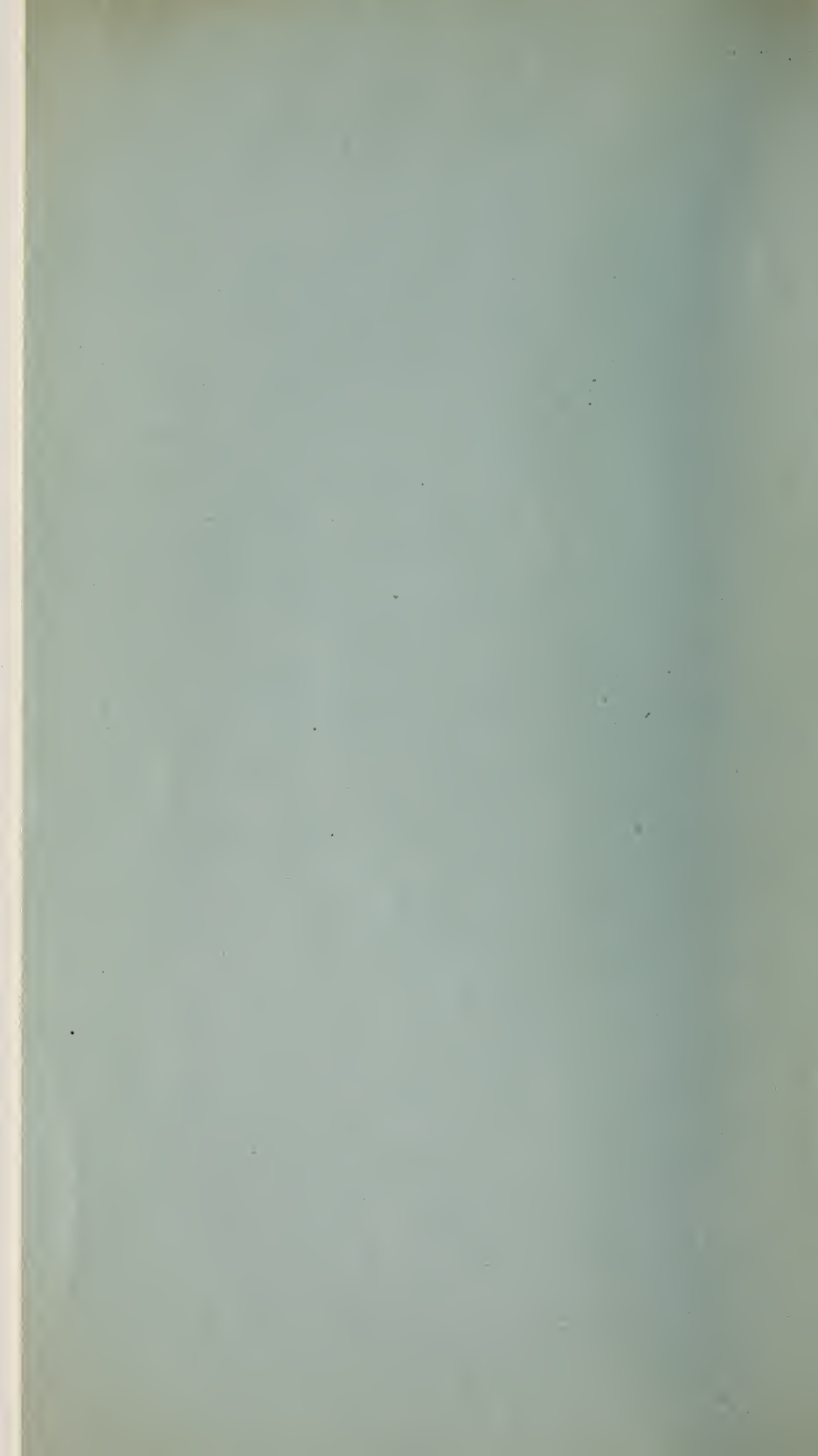
1891-'92.



WASHINGTON:

GOVERNMENT PRINTING OFFICE.

1891.



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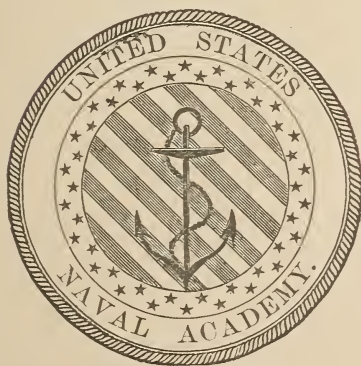
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THE UNITED STATES NAVAL ACADEMY.

The United States Naval Academy was founded in 1845 by the Hon. George Bancroft, Secretary of the Navy, in the administration of President James K. Polk. It was formally opened October 10 of that year under the name of the Naval School, with Commander Franklin Buchanan as superintendent. It was placed at Annapolis, Md., on the land occupied by Fort Severn, which was given up by the War Department for the purpose. The course was fixed at five years, of which only the first year and the last were spent at the school, the intervening three years being passed at sea. This arrangement was not strictly adhered to, the exigencies of the service making it necessary, in many cases, to shorten the period of study. In January, 1846, four months after the opening of the school, the students consisted of 36 midshipmen of the date of 1840, who were preparing for the examination for promotion; 13 of the date of 1841, who were to remain until drafted for service at sea; and 7 acting midshipmen, appointed after September of the previous year. The midshipmen of the date of 1840 were the first to be graduated, finishing their limited course in July, 1846, and they were followed in order by the subsequent dates until the reorganization of the school in 1850.

In September, 1849, the following board was appointed to revise the plan and the regulations of the Naval School:

Commander William B. Shubrick,
Commander Franklin Buchanan,
Commander Samuel F. Du Pont,
Commander George P. Upshur,
Surgeon W. S. W. Ruschenberger,
Professor William Chauvenet.
Captain Henry Brewerton, U. S. Army.

The plan reported by the board was approved, and went into operation July 1, 1850. The new organization provided for a course of seven years, the first two and the last two at the school, and the three intermediate years at sea. The school was placed under the supervision of the Bureau of Ordnance and Hydrography, and its name was changed to the United States Naval Academy. The corps of professors was enlarged, the course was extended, and the system of separate departments with executive heads was fully adopted. It was provided that a board of visitors should make an annual inspection of the Academy and report upon its condition to the Secretary of the Navy. A suitable vessel was attached to the Academy as a practice ship, and the annual practice cruises were begun.

After the system had been in operation a year new changes were proposed, and the recommendations of the academic board on the subject were referred to the board of examiners for the year 1851, composed of the following-named officers:

Commodore David Conner,
Captain Samuel L. Breese,
Commander C. K. Stribling,
Commander A. Bigelow,
Commander Franklin Buchanan,
Lieutenant Thomas T. Craven.

The change recommended by the board of examiners, and adopted by the Department, consisted mainly in leaving out the requirement of three years of sea service in the middle of the course, thus making the four years of study consecutive. The practice cruise supplied the place of the omitted sea service, and gave better opportunities of training. The change went into operation in November, 1851, together with other improvements recommended by the board. This system has been continued, with some slight modifications, to the present time. The first class to receive the benefit of it was that which entered in 1851. Six members of this class completed the course in three years, and were graduated in June, 1854; the rest of the class followed in 1855.

In May, 1861, on the outbreak of the war, the Academy was removed to Newport, R. I. The three upper classes were detached and ordered to sea, and the remaining acting midshipmen were quartered in the Atlantic House and on board the frigates *Constitution* and *Santee*. In the summer of 1865 the Academy was moved back to Annapolis, where it has since remained.

When the Bureau of Navigation was established, July 5, 1862, the Academy was placed under its supervision; March 1, 1867, it was placed under the direct care and supervision of the Navy Department, the administrative routine and financial management being still conducted through the Bureau. On the 11th of March, 1869, this official connection with the Bureau ceased, but was renewed by the general order of the Navy Department issued June 25, 1889.

The term of the academic course was changed by law, March 3, 1873, from four to six years. The change took effect with the class that entered in the following summer.

In 1866 a class of acting third assistant engineers was ordered to the Academy for instruction. The course embraced the subjects of steam engineering, mechanism, chemistry, mechanics, and practical exercises with the steam engine and in the machine shop. This class was graduated in June, 1868, together with two cadet engineers who had entered the Academy in 1867. After an interval of four years, in October, 1871, a new class of cadet engineers was admitted. This class followed a two years' course, somewhat more extended than that of the class of 1868, and was graduated in 1873. In 1872 and 1873 new classes were admitted, the first of which left the Academy in 1874, and the second in 1875. By an act of Congress, approved February 24, 1874, the course of instruction for cadet engineers was made four years instead of two; the new provision was first applied to the class entering the Academy in the year 1874. This class was graduated in June, 1878.

By an act of Congress, approved August 5, 1882, it was provided that from that date "there shall be no appointments of cadet-midshipmen or cadet-engineers at the Naval Academy, but in lieu thereof naval cadets shall be appointed from each Congressional district and at large, as now provided by law for cadet-midshipmen, and all the undergraduates at the Naval Academy shall hereafter be designated and called 'naval cadets;' and from those who successfully complete the six years' course, appointments shall hereafter be made as it is necessary to fill vacancies in the lower grades of the line and Engineer Corps of the Navy and of the Marine Corps: *And provided further*, That no greater number of appointments into these grades shall be made each year than shall equal the number of vacancies which has occurred in the same grades during the preceding year; such appointments to be made from the graduates of the year, at the conclusion of their six years' course, in the order of merit, as determined by the academic board of the Naval Academy; the assignment to the various corps to be made by the Secretary of the Navy upon the recommendation of the academic board. But nothing herein contained shall reduce the number of appointments from such graduates below ten in each year, nor deprive of such appointment any graduate who may complete the six years' course during the year eighteen hundred and eighty-two. And if there be a surplus of graduates, those who do not receive such appointment shall be given a certificate of graduation, an honor-

able discharge, and one year's sea pay, as now provided by law for cadet-midshipmen; and so much of section fifteen hundred and twenty-one of the Revised Statutes as is inconsistent herewith is hereby repealed.

"That any cadet whose position in his class entitles him to be retained in the service may, upon his own application, be honorably discharged at the end of the four years' course at the naval academy, with a proper certificate of graduation."

The act of Congress, approved March 2, 1889, provides that "the academic board of the naval academy shall on or before the thirtieth day of September in each year separate the first class of naval cadets then commencing their fourth year into two divisions, as they may have shown special aptitude for the duties of the respective corps, in the proportion which the aggregate number of vacancies occurring in the preceding fiscal year ending on the thirtieth day of June in the lowest grades of commissioned officers of the line of the navy and marine corps of the navy shall bear to the number of vacancies to be supplied from the academy occurring during the same period in the lowest grade of commissioned officers of the engineer corps of the navy; and the cadets so assigned to the line and marine corps division of the first class shall thereafter pursue a course of study arranged to fit them for service in the line of the navy, and the cadets so assigned to the engineer corps division of the first class shall thereafter pursue a separate course of study arranged to fit them for service in the engineer corps of the navy, and the cadets shall thereafter, and until final graduation at the end of their six years' course, take rank by merit with those in the same division, according to the merit marks; and from the final graduates of the line and marine corps division, at the end of their six years' course, appointments shall be made hereafter as it shall be necessary to fill vacancies in the lowest grades of commissioned officers of the line of the navy and marine corps; and the vacancies in the lowest grades of the commissioned officers of the engineer corps of the navy shall be filled in like manner by appointments from the final graduates of the engineer division at the end of their six years' course: *Provided*, That no greater number of appointments into the said lowest grades of commissioned officers shall be made each year than shall equal the number of vacancies which shall have occurred in the same grades during the fiscal year then current; such appointments to be made from the final graduates of the year, in the order of merit as determined by the academic board of the naval academy, the assignment to be made by the Secretary of the Navy upon the recommendation of the academic board at the conclusion of the fiscal year then current; but nothing contained herein or in the naval appropriation act of August fifth, eighteen hundred and eighty-two, shall reduce the number of appointments of final graduates at the end of their six years' course below twelve in each year to the line of the navy, and not less than two shall be appointed annually to the engineer corps of the navy, nor less than one annually to the marine corps; and if the number of vacancies in the lowest grades aforesaid, occurring in any year shall be greater than the number of final graduates of that year, the surplus vacancies shall be filled from the final graduates of following years, as they shall become available."

"That after the fourth day of March, eighteen hundred and eighty-nine, the minimum age of admission of cadets to the academy shall be fifteen years and the maximum age twenty years."

SUPERINTENDENTS
OF THE
UNITED STATES NAVAL ACADEMY.

Assumed command :

Sept. 3, 1845.—Commander Franklin Buchanan.
Mar. 15, 1847.—Commander George P. Upshur.
July 1, 1850.—Commander Cornelius K. Stribling.
Nov. 1, 1853.—Commander Louis M. Goldsborough.
Sept. 15, 1857.—Captain George S. Blake.
Sept. 9, 1865.—Rear-Admiral David D. Porter.
Dec. 1, 1869.—Commodore John L. Worden.
Sept. 22, 1874.—Rear-Admiral C. R. P. Rodgers.
July 1, 1878.—Commodore Foxhall A. Parker.
Aug. 2, 1879.—Rear-Admiral George B. Balch.
June 13, 1881.—Rear-Admiral C. R. P. Rodgers.
Nov. 14, 1881.—Captain F. M. Ramsay.
Sept. 9, 1886.—Commander W. T. Sampson.
June 30, 1890.—Captain R. L. Phythian.

BOARD OF VISITORS, JUNE, 1891.

Hon. W. E. CHANDLER, U. S. Senate, *President*.

Hon. H. A. HERBERT, U. S. House of Representative, *Vice President*.

Hon. I. G. HARRIS	U. S. Senate.
Hon. J. P. DOLLIVER.....	U. S. House of Representatives.
Hon. W. C. WALLACE	U. S. House of Representatives.
Commodore J. A. GREER	U. S. Navy.
Hon. GEORGE N. TILLMAN.....	Nashville, Tennessee.
Hon. A. R. MCGILL	Minneapolis, Minnesota.
Dr. GEORGE W. ATHERTON	Bellefonte, Pennsylvania.
Colonel E. BIERER	Hiawatha, Kansas.
Mr. CHARLES A. COFFIN.....	Boston, Massachusetts.
Mr. H. H. SMITH	Washington, D. C.

ACADEMIC CALENDAR.

1891-1892.

1891.		
Oct.	1.—Beginning of first term	Thursday.
1892.		
Jan.	25-30.—Semi-annual examination	Monday-Saturday.
Jan.	30.—End of first term	Saturday.
May	16.—Examination of candidates for admission as naval cadets	Monday.
May	31.—End of academic year, 1891-'92	Tuesday.
May 30-June 4.	—Annual examination	Monday-Saturday.
Sept.	1.—Examination of candidates for admission as naval cadets	Thursday.
Oct.	1.—Beginning of first term, 1892-'93	Saturday.

The academic months end on the following days :

1891-1892.

October	Oct. 31	February	Feb. 27
November	Nov. 28	March	Mar. 26
December	Dec. 26	April	Apr. 23
January	Jan. 23	May	May 21

1892-1893.

October	Oct. 29	December	Dec 24
November	Nov. 26	January	Jan. 21

CALENDAR FOR 1891-'92.

SEPTEMBER.							APRIL.						
Sun.	M.	T.	W.	T.	F.	Sat.	Sun.	M.	T.	W.	T.	F.	Sat.
---	---	1	2	3	4	5	---	---	---	---	---	1	2
6	7	8	9	10	11	12	3	4	5	6	7	8	9
13	14	15	16	17	18	19	10	11	12	13	14	15	16
20	21	22	23	24	25	26	17	18	19	20	21	22	23
27	28	29	30	---	---	---	24	25	26	27	28	29	30
OCTOBER.							MAY.						
---	---	---	---	1	2	3	1	2	3	4	5	6	7
4	5	6	7	8	9	10	8	9	10	11	12	13	14
11	12	13	14	15	16	17	15	16	17	18	19	20	21
18	19	20	21	22	23	24	22	23	24	25	26	27	28
25	26	27	28	29	30	31	29	30	31	---	---	---	---
NOVEMBER.							JUNE.						
1	2	3	4	5	6	7	---	---	---	1	2	3	4
8	9	10	11	12	13	14	5	6	7	8	9	10	11
15	16	17	18	19	20	21	12	13	14	15	16	17	18
22	23	24	25	26	27	28	19	20	21	22	23	24	25
29	30	---	---	---	---	---	26	27	28	29	30	---	---
DECEMBER.							JULY.						
---	---	1	2	3	4	5	---	---	---	---	---	1	2
6	7	8	9	10	11	12	3	4	5	6	7	8	9
13	14	15	16	17	18	19	10	11	12	13	14	15	16
20	21	22	23	24	25	26	17	18	19	20	21	22	23
27	28	29	30	31	---	---	24	25	26	27	28	29	30
---	---	---	---	---	---	---	31	---	---	---	---	---	---
JANUARY.							AUGUST.						
---	---	---	---	---	1	2	---	---	---	---	---	---	---
3	4	5	6	7	8	9	7	8	9	10	11	12	13
10	11	12	13	14	15	16	14	15	16	17	18	19	20
17	18	19	20	21	22	23	21	22	23	24	25	26	27
24	25	26	27	28	29	30	28	29	30	31	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---	---
FEBRUARY.							SEPTEMBER.						
---	1	2	3	4	5	6	---	---	---	---	---	---	---
7	8	9	10	11	12	13	4	5	6	7	8	9	10
14	15	16	17	18	19	20	11	12	13	14	15	16	17
21	22	23	24	25	26	27	18	19	20	21	22	23	24
28	29	---	---	---	---	---	25	26	27	28	29	30	---
MARCH.							OCTOBER.						
---	---	1	2	3	4	5	---	---	---	---	---	---	---
6	7	8	9	10	11	12	2	3	4	5	6	7	8
13	14	15	16	17	18	19	9	10	11	12	13	14	15
20	21	22	23	24	25	26	16	17	18	19	20	21	22
27	28	29	30	31	---	---	23	24	25	26	27	28	29
---	---	---	---	---	---	---	30	31	---	---	---	---	---

OFFICERS

ATTACHED TO THE

UNITED STATES NAVAL ACADEMY.

SUPERINTENDENT,

CAPTAIN R. L. PHYTHIAN.

Assistant to the Superintendent in charge of Buildings and Grounds,

LIEUTENANT D. D. V. STUART.

Assistant to the Superintendent and Secretary of the Academic Board,

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LIEUTENANT C. W. BARTLETT, *Assistant and Drill Officer.*

LIEUTENANT C. D. GALLOWAY, *Assistant.*

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LIEUTENANT C. A. GOVE, *Assistant and Drill Officer.*

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LIEUTENANT W. F. FULLAM.

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G. HEINTZ.

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LIEUTENANT EDWARD LLOYD, jr.

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PASSED ASSISTANT ENGINEER R. G. DENIG,

PASSED ASSISTANT ENGINEER F. J. SCHELL,

PASSED ASSISTANT ENGINEER J. L. GOW,

ASSISTANT ENGINEER B. C. SAMPSON.

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ENSIGN C. S. WILLIAMS,
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ASSISTANT PROFESSOR HENRI MARION,
ASSISTANT PROFESSOR SAMUEL GARNER, PH. D.

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PROFESSOR MARSHAL OLIVER,
ASSISTANT PROFESSOR C. F. BLAUVELT.

BRANCH OF PHYSICAL TRAINING.

In Charge,

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Professor of Mathematics,

W. W. JOHNSON, A. M.

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MEDICAL INSPECTOR B. H. KIDDER, M. D.

PASSED ASSISTANT SURGEON W. R. DU BOSE, M. D.

PASSED ASSISTANT SURGEON L. W. CURTIS, M. D.

PAY DIRECTOR JAMES FULTON, *Pay Officer.*PAY DIRECTOR CASPAR SCHENCK, *Commissary and General Storekeeper.*

CHAPLAIN H. H. CLARK.

ASSISTANT PROFESSOR A. N. BROWN, *Librarian.*J. M. SPENCER, *Assistant Librarian.*R. M. CHASE, *Secretary.*GUNNER R. SOMMERS, *Attached to Ships.**U. S. Naval Cadet Training and Practice Vessel Enterprise.*COMMANDER C. M. CHESTER, *Commanding.*

BOATSWAIN J. S. SINCLAIR.

Mates,

SAMUEL GEE.

B. G. PERRY.

C. J. MURPHY.

W. G. SMITH.

MARINE OFFICERS.

CAPTAIN J. M. T. YOUNG, *Commanding Marines.*

FIRST LIEUTENANT H. K. WHITE.

ACADEMIC BOARD.

THE SUPERINTENDENT.

THE COMMANDANT OF CADETS.

THE HEAD OF THE DEPARTMENT OF SEAMANSHIP, NAVAL CONSTRUCTION, AND NAVAL TACTICS.

THE HEAD OF THE DEPARTMENT OF ORDNANCE AND GUNNERY.

THE HEAD OF THE DEPARTMENT OF ASTRONOMY, NAVIGATION, AND SURVEYING.

THE HEAD OF THE DEPARTMENT OF STEAM ENGINEERING.

THE HEAD OF THE DEPARTMENT OF MECHANICS AND APPLIED MATHEMATICS.

THE HEAD OF THE DEPARTMENT OF PHYSICS AND CHEMISTRY.

THE HEAD OF THE DEPARTMENT OF MATHEMATICS.

THE HEAD OF THE DEPARTMENT OF ENGLISH STUDIES, HISTORY, AND LAW.

THE HEAD OF THE DEPARTMENT OF MODERN LANGUAGES.

THE HEAD OF THE DEPARTMENT OF MECHANICAL DRAWING.

CADET LIEUTENANT-COMMANDER,

J. E. McDONALD, JR.

CADET LIEUTENANTS,

H. L. FERGUSON,
W. C. DAWSON,

G. C. DAY,
C. T. JEWELL.

CADET LIEUTENANT AND ADJUTANT,

L. S. THOMPSON.

CADET PASSED ASSISTANT ENGINEER,

J. D. BEURET.

CADET MASTERS.

L. McNAMEE,
C. L. HUSSEY,

C. F. MACKLIN,
F. L. SAWYER.

CADET ENSIGNS.

J. F. HINES,
J. R. Y. BLAKELY,

G. H. MATHER,
H. A. EVANS.

CADET PETTY OFFICERS OF THE FIRST CLASS.

CADET CHIEF PETTY OFFICER,

J. R. P. PRINGLE.

<i>First Division.</i>	<i>Second Division.</i>	<i>Third Division.</i>	<i>Fourth Division.</i>
Y. STIRLING, JR.,	T. S. BORDEN,	J. R. CAMPBELL,	J. SHEEHAN,
F. A. TRAUT,	F. R. PAYNE,	B. B. McCORMICK,	E. S. KELLOGG,
T. H. LOW,	G. C. DAVISON,	G. MALLISON,	J. T. MYERS,
J. H. RUSSELL, JR.	T. L. STITT,	W. BALL,	A. R. DAVIS,
	D. VAN H. ALLEN.	P. SYMINGTON.	A. L. GAMBLE.

CADET PETTY OFFICERS OF THE SECOND CLASS,

<i>First Division.</i>	<i>Second Division.</i>	<i>Third Division.</i>	<i>Fourth Division.</i>
W. S. MONTGOMERY,	L. J. MAGILL,	F. H. CLARK, JR.,	D. C. NUTTING, JR.,
T. D. PARKER,	W. S. CROSEY,	D. M. BERRY,	H. A. PEARSON,
C. E. FITCH,	W. VAN N. POWELSON,	C. J. LANG,	T. S. KELLOGG,
J. A. PERRY.	M. B. PEUGNET.	F. B. UPHAM.	C. WELLS.

SUMMER CRUISE, 1891.

OFFICERS AND NAVAL CADETS.

UNITED STATES PRACTICE SHIP CONSTELLATION.

June 6 to August 25.

COMMANDER C. M. CHESTER, *Commanding.*
LIEUTENANT J. M. HAWLEY, *Executive Officer.*
LIEUTENANT J. C. CRESAP, *Navigator.*
LIEUTENANT E. B. UNDERWOOD, *Watch Officer.*
LIEUTENANT C. B. T. MOORE, *Watch Officer.*
LIEUTENANT A. SHARP, JR., *Watch Officer.*
LIEUTENANT H. C. GEARING, *Instructor in Navigation.*

LIEUTENANT B. T. WALLING, *Watch Officer.*
ENSIGN C. S. WILLIAMS, *Watch Officer.*
SURGEON S. H. DICKSON.
PASSED ASSISTANT SURGEON L. M. CURTIS.
ASSISTANT PAYMASTER J. A. MUDD.
CHAPLAIN H. H. CLARK.

NAVAL CADETS.

First Class—Line Division.

Allen, D. Van H.,	Hines, J. F.,	Payne, F. R.,
Ball, W.,	Hussey, C. L.,	Pringle, J. R. P.,
Blakely, J. R. Y.,	Jewell, C. T.,	Rice, A.,
Borden, T. S.,	Kellogg, E. S.,	Russell, J. H., jr.,
Campbell, J. R.,	Low, T. H.,	Sawyer, F. L.,
Davis, A. R.,	McCormick, B. B.,	Sheehan, J.,
Davison, G. C.,	McDonald, J. E., jr.,	Stirling, Y., jr.,
Dawson, W. C.,	Macklin, C. F.,	Stitt, T. L.,
Day, G. C.,	McNamee, L.,	Stopford, F. W.,
Evans, H. A.,	Mallison, G.,	Symington, P.,
Ferguson, H. L.,	Mather, G. H.,	Thompson, L. S.,
Gamble, A. L.,	Myers, J. T.,	Traut, F. A.

Third Class.

Adams, L. S.,	Graham, S. V.,	Ridgely, R., jr.,
Babin, P.,	Griffith, C. W.,	Robert, W. P.,
Baker, H. T.,	Hinds, A. W.,	Roberts, T. G.,
Batts, E. L.,	Hudgins, J. M.,	Ryan, G. W., (n)
Bennett, E. L.,	Hull, A. T.,	Sandoz, F. L.,
Berryman, J. R., (n)	James, L. F.,	Scott, W. P.,
Bookwalter, C. S.,	Johnson, M. K.,	Sellers, D. F.,
Bulmer, R. C.,	Jones, L. Burton,	Shaw, M. J.,
Chappell, R. H.,	Kavanagh, A. G.,	Snow, C. F.,
Chester, A. T., (h)	LaBach, P. M.,	Spear, R.,
Churchill, W.,	Lane, C. A.,	Stone, G. L. P.,
Cone, H. I.,	Luby, J. McC.,	Stone, R.,
Cooper, I. T.,	Lyon, F.,	Tompkins, J. T.,
Cox, D. H.,	McLean, R.,	Turpin, W. S.,
Crosby, B. G.,	McMorris, B. K.,	Walker, H. M.,
DeLany, E. H.,	McNeely, R. W.,	Webster, C.,
England, C.,	Manion, W. J.,	Whitted, W. S.,
Fullinwider, S. P.,	Moody, R. C.,	Winn, P. B.,
Galbraith, G. S.,	Osborn, R. H.,	Winship, E.
Gelmi, G. E.,	Perkins, F. K., (n)	
Gillis, I. Van G.,	Reeves, J. M.,	

Fourth Class.

Baldwin, G. E.,	Garrison, D. M.,	Pratt, P. L.,
Bannon, P. M.,	Harrison, B. W.,	Shea, P. T.,
Blandy, E. C.,	Laning, H.,	Vestal, S. C.,
Cruse, A. J.,	Liscom, A. C.,	Washington, Pope,
Deane, R. A.,	Love, J. M.,	White, H. H.
Doane, E. P.,	Mann, G. H.,	
Fairbrother, A. L., (k)	Martin, N. M.,	

SYNOPSIS OF THE CRUISE, 1891.

CONSTELLATION.

Cadets, first class, line division, and the third and fourth classes embarked June 6.
 Sailed from Annapolis June 9.
 Arrived at Hampton Roads June 19.
 Passed Cape Henry, bound to New London, Conn., June 22.
 Arrived at New London, Conn., June 29.
 Cadets inspected ships of squadron of evolution July 29.
 Cadets witnessed target practice of squadron of evolution July 29.
 Cadets witnessed evolutions, naval brigade, squadron of evolution at Fisher Island July 30.
 Cadets received instruction at torpedo station August 10 and 11.
 Cruised in Long Island Sound and vicinity until August 17.
 Sailed from Newport for Annapolis August 17.
 Passed Cape Henry, bound to Annapolis, August 23.
 Arrived at Annapolis August 28.
 Cadets disembarked August 28.

h Transferred sick to Naval Hospital, New York, July 30.

k Granted leave from ship, sick, July 25.

n Granted leave from ship on August 13.

NAVAL CADETS RETAINED AT THE ACADEMY FOR MACHINE SHOP AND OTHER PRACTICAL INSTRUCTION.

*First Class—Engineer Division.*Benret, J. D.,
Frank, R. K.,
Hibbs, W. D., (r)Hasbrouck, R. De L.,
Huffington, H. W.,Moses, S. E.,
Porter, J. S.*Second Class.*Berry, D. M.,
Bisset, E. L.,
Brady, J. R.,
Campbell, E. H.,
Carver, M.,
Chadwick, F. L.,
Clark, F. H., jr.,
Coleman, J. S.,
Cook, A. M.,
Crocker, J. A.,
Crosley, W. S.,
Goodridge, J. S.,
Douglas, R. S.,
Elder, E. A., (f)
Fowel, C. C.,
Hitch, C. E.,
Hise, W. K.,
Hroff, J. C.,Hains, P. C., jr.,
Hoblitzelle, W. E.,
Holsinger, G. L.,
Jackson, O. P.,
Kellogg, T. S.,
Lang, C. J.,
McKethan, A. A.,
Magill, L. J.,
Montgomery, W. S.,
Morris, J. R.,
Nutting, D. C., jr.,
Olmsted, P. N.,
Parker, T. D.,
Pearson, H. A.,
Perry, J. A.,
Peugnet, M. B.,
Pollock, E. R.,
Potter, J. B.,Powell, W. G.,
Powelson, W. Van N.,
Pratt, A. A.,
Price, H. B.,
Procter, A. M.,
Read, F. De W.,
Rodney, W., (g)
Ryan, J. P. J.,
Scott, G. T.,
Sticht, J. L.,
Sturdevant, R.,
Trench, M. E.,
Upham, F. B.,
Ward, H. H.,
Wells, C.,
Whitman, W. B.,
Wilson, T. S.,
Zillman, C. C. H. (m)*Third Class.*

Jones, L. Benson.

Fourth Class.

Takasaki Motohiko.

ON LEAVE SICK.

Third Class, Asbury, L. G., May 29 to September 20.

Fourth Class, Billings, F. T., June 7 to August 29.

Fourth Class, Emery, A. B., May 25 to September 1.

Fourth Class, DeJarnette, J. D. C., March 15 to May 15, May 22 to September 30.

SUMMARY.

On board United States Practice Ship <i>Constellation</i>	116
Remaining at the Academy	63
Total	179

f Granted leave June 23 to September 30.*g* Granted leave March 12 to September 23.*m* Granted leave June 1 to September 20.*r* Resigned September 3.

CLASSES OF THE NAVAL CADETS

AT THE BEGINNING OF THE ACADEMIC YEAR, 1891-'92

(Corrected to November 18, 1891.)

*Naval cadets of the class appointed in 1886, performing required service afloat—1
Division—31 members.*

Order of gen- eral merit.	Name.	State from which appointed.	Date of admission
*1	Ruhm, Thomas Francis	Tennessee	May 20, 1886
*2	Spear, Lawrence	Ohio	May 19, 1886
3	Coleman, Noah Tunnichiff	New York	May 21, 1886
4	Schofield, Frank Herman	New York	May 21, 1886
5	Chase, Jehu Valentine	Louisiana	Sept. 28, 1886
6	Gartley, Alonzo	Iowa	May 23, 1886
7	Ziegemeier, Henry Joseph	Ohio	May 21, 1886
8	Davis, Cleland	Kentucky	May 22, 1886
9	Signor, Matt Howland	Nebraska	May 21, 1886
10	Blankenship, John Millington	Virginia	May 20, 1886
11	Buck, William Henry	Mississippi	May 22, 1886
12	Taylor, Montgomery Meigs	At large	May 21, 1886
13	Ritter, Henry Snyder	Pennsylvania	May 25, 1886
14	Williams, George Washington	South Carolina	Sept. 28, 1886
15	Catlin, Albertus Wright	Minnesota	May 24, 1886
16	McVay, Charles Butler, jr	Colorado	May 19, 1886
17	Vogelgesang, Charles Theodore	California	Sept. 6, 1886
18	Everhart, Lay Hampton	Alabama	May 20, 1886
19	Snow, William Alanson	Massachusetts	Sept. 4, 1886
20	Sullivan, Franklin Buchanan	At large	May 22, 1886
21	Bailey, Claude	Arkansas	Sept. 8, 1886
22	Neville, Wendell Cushing	Virginia	Sept. 13, 1886
23	Moses, Lawrence Henry	New York	Sept. 29, 1886
24	Dayton, John Havens	At large	Sept. 13, 1886
25	Bostwick, Lucius Allyn	Massachusetts	Sept. 7, 1886
26	Bond, Charles Otis	Iowa	Sept. 8, 1886
27	Radford, Cyrus Sugg	Kentucky	May 25, 1886
28	Treadwell, Thomas Conrad	Massachusetts	May 21, 1886
29	Moffett, William Adger	South Carolina	Sept. 6, 1886
30	Latimer, Julius Lane	West Virginia	Sept. 30, 1886
31	Edie, John Rufus	At large	May 19, 1886

Engineer Division, 3 members.

1	Holmes, Urban Tigner	Arkansas	Sept. 13, 1886
2	Price, Claude Bernard	Mississippi	June 2, 1886
3	Dismukes, Doctor Eugene	Mississippi	May 21, 1886

*Naval cadets of the class appointed in 1887, performing required service afloat—Line
Division—36 members.*

Order of gen- eral merit.	Name.	State from which appointed.	Date of ad- mission.
*1	Zahm, Frank Baker	Pennsylvania	Sept. 5, 1887
*2	Gillmor, Horatio Gonzalo	Wisconsin	Sept. 5, 1887
*3	Smith, Henry Gerrish	Ohio	Sept. 5, 1887
*4	Watt, Richard Morgan	Pennsylvania	Sept. 22, 1887
*5	Belnap, Reginald Rowan	Arkansas	Sept. 5, 1887
*6	Blamer, DeWitt	Iowa	May 19, 1887
7	Stearns, Clark Daniel	Michigan	Sept. 5, 1887
8	Pollock, Edwin Taylor	Ohio	May 20, 1887
9	Kuenzli, Henry Charles	Wisconsin	Sept. 6, 1887
10	Willard, Arthur Lee	Missouri	Sept. 7, 1887
11	Christy, Harley Hannibal	Ohio	May 24, 1887
12	Hartung, Renwick John	Iowa	Sept. 6, 1887
13	Hough, Henry Hughes	Massachusetts	Sept. 6, 1887
14	Irwin, Noble Edward	Ohio	Sept. 29, 1887
15	Smith, Lucien Greathouse	Illinois	June 3, 1887
16	Evans, Waldo	Kansas	Sept. 7, 1887
17	Moale, John Gray Foster	California	Sept. 6, 1887
18	McLemore, Albert Sidney	Tennessee	May 23, 1887
19	Senn, Thomas Jones	South Carolina	May 19, 1887
20	Bierer, Bion Barnett	Kansas	Sept. 24, 1887
21	Caldwell, Harry Handly	Illinois	Sept. 7, 1887
22	Preston, Charles Francis	Maryland	Sept. 6, 1887
*23	Williams, Dion	Ohio	July 16, 1887
24	Lane, Rufus Herman	Ohio	June 2, 1887
25	Sypher, Jay Hale	Arizona	Sept. 5, 1887
26	Leigh, Richard Henry	Mississippi	Sept. 6, 1887
27	Macfarland, Horace Greeley	New York	Sept. 6, 1887
28	Brotherton, William Daniel	Wisconsin	Sept. 6, 1887
29	Althouse, Adelbert	Illinois	May 21, 1887
30	Carter, James Francis	Pennsylvania	March 24, 1887
31	McKelvy, William Nessler	Pennsylvania	May 20, 1887
32	Smith, Harry Eaton	Ohio	May 20, 1887
33	Theall, Elisha	New York	May 28, 1887
34	Blount, Irving	Indiana	Sept. 6, 1887
35	Richards, George	Ohio	Sept. 12, 1887
36	Gross, Louis Herman	Illinois	May 19, 1887

Engineer Division—7 members.

1	Robison, John Keeler	Michigan	May 20, 1887
2	Rowen, John Howard	Pennsylvania	Sept. 27, 1887
3	Reed, Milton Eugene	Iowa	Sept. 5, 1887
4	Emrich, Charles Rulf	Illinois	May 19, 1887
5	McGrann, William Hugh	Tennessee	May 20, 1887
6	Shepard, George Hugh	Wisconsin	Sept. 27, 1887
7	Laws, George William	Iowa	May 21, 1887

Naval Cadets of the First Class—Line Division—31 members.

Name.	State from which appointed.	Date of admission.	Sea serv in pract ships.	
			Months.	Days.
Allen, David Van Horn	Tennessee	Sept. 6, 1887	8	
Ball, Walter	New York	Sept. 6, 1888	4	
Blakely, John Russell Young	Pennsylvania	Sept. 29, 1888	4	
Borden, Thomas Sheppard	Louisiana	Sept. 25, 1888	4	
Campbell, Joseph Randolph	Wyoming	Sept. 29, 1888	4	
Davis, Austin Rockwell	Georgia	May 21, 1888	7	
Davison, Gregory Caldwell	Missouri	May 22, 1888	7	
Dawson, William Charles	Missouri	Sept. 6, 1888	4	
Day, George Calvin	Vermont	May 19, 1888	7	
Evans, Holden A	Florida	Sept. 5, 1888	4	
Ferguson, Homer Lenoir	North Carolina	May 21, 1888	7	
Gamble, Aaron Lichtenberger	Indiana	Sept. 5, 1888	4	
Hines, John Fore	Kentucky	May 1, 1888	7	
Hussey, Charles Lincoln	New Hampshire	May 21, 1888	7	
Jewell, Charles Theodore	At large	May 19, 1887	7	
Kellogg, Edward Stanley	New York	Sept. 5, 1888	3	1
Low, Theodore Henry	Connecticut	May 18, 1888	7	1
McCormick, Benjamin Bernard	New York	May 19, 1888	7	1
McDonald, Joseph Ezekiel	Illinois	Sept. 7, 1888	4	2
Macklin, Charles Fearn	New York	Sept. 25, 1888	4	2
McNamee, Luke	Kansas	Sept. 6, 1888	4	2
Mallison, George	North Carolina	May 21, 1888	7	10
Mather, George Herbert	New Jersey	May 22, 1888	7	10
Myers, John Twiggs	Georgia	Sept. 27, 1887	5	13
Payne, Fred Rounsville	New York	May 21, 1888	7	10
Pringle, Joel Roberts Poinsett	Illinois	Sept. 6, 1888	4	20
Russell, John Henry, jr	At large	May 18, 1888	5	13
Sawyer, Frederick Lewis	Illinois	Sept. 6, 1888	4	20
Sheehan, James	New York	May 21, 1888	7	10
Stirling, Yates, jr	Massachusetts	Sept. 6, 1888	4	1
Stitt, Thomas Lutz	Indiana	Sept. 5, 1888	4	20
Symington, Powers	West Virginia	Sept. 17, 1888	4	20
Thompson, Leon Seymour	Ohio	May 21, 1888	7	10
Traut, Frederick Augustus	Connecticut	May 19, 1888	7	10

Engineer Division—6 members.

Beuret, John Dougal	Ohio	Sept. 7, 1888	1	27
Crank, Robert Kyle	Texas	Sept. 6, 1888	1	27
Hasbrouck, Raymond De Lancy	Idaho	Sept. 25, 1888	1	27
Huffington, Howard Williams	Pennsylvania	May 19, 1888	4	17
Moses, Stanford Elwood	Georgia	Sept. 6, 1888	1	27
Porter, John Singleton	Tennessee	Sept. 25, 1888	1	27

Naval Cadets of the Second Class—51 members.

Name.	State from which appointed.	Date of admission.	Sea service in practice ships.	
			Months.	Days.
Berry, David Mark	California	Sept. 6, 1889	2	22
Bisset, Eugene Leo	Kentucky	Oct. 2, 1889	2	22
Brady, John Richard	Pennsylvania	Sept. 6, 1889	2	22
Campbell, Edward Hale	Indiana	Sept. 6, 1889	2	22
Caryer, Marvin	Minnesota	Sept. 27, 1889	2	22
Chadwick, Frank Laird	Minnesota	May 18, 1889	4	19
Clark, Frank Hodges, jr	Rhode Island	Sept. 5, 1889	2	22
Coleman, James Samuel	Alabama	Sept. 5, 1889	2	22
Cook, Allen Merriam	Kansas	May 22, 1889	4	14
Crocker, John Archdell	Pennsylvania	May 22, 1889	4	19
Crosley, Walter Selwyn	Connecticut	Sept. 9, 1889	2	22
Cuddridge, John Sehon	West Virginia	Sept. 7, 1889	2	22
Douglas, Richard Spencer	Georgia	June 3, 1889	4	19
Elder, Edwin Avery	Massachusetts	May 21, 1889	4	19
Fewel, Christopher Catron	Texas	Oct. 2, 1889	2	22
Fitch, Claude Eames	Illinois	Sept. 7, 1889	2	22
Fise, William Kern	Illinois	June 14, 1889	4	19
Freff, Joseph Coblentz	Maryland	Oct. 3, 1889	2	22
Gains, Peter Conover, jr	District of Columbia	May 18, 1889	4	19
Golsinger, Gerald Long	Kansas	Oct. 3, 1889	2	22
Gackson, Orton Porter	Pennsylvania	May 18, 1889	4	19
Kellogg, Thomas Steele	At large	Oct. 19, 1889	2	22
Lang, Charles Jonas	Pennsylvania	Sept. 6, 1889	2	22
McKethan, Alfred Augustus	North Carolina	Sept. 5, 1889	2	22
Magill, Louis John	Pennsylvania	Nov. 11, 1889	2	22
Montgomery, William Slack	Kentucky	Sept. 5, 1889	2	22
Morris, John Ramsey	Missouri	Sept. 7, 1889	2	22
Mutting, Daniel Chapin, jr	Kansas	May 21, 1889	4	19
Olmsted, Percy Napier	Oregon	May 21, 1889	1	27
Parker, Thomas Drayton	South Carolina	Oct. 3, 1889	2	22
Pearson, Henry Allen	Utah	Sept. 6, 1889	2	22
Perry, Joseph Albert	Illinois	Sept. 6, 1889	2	22
Peugnet, Maurice Berthold	Missouri	Sept. 7, 1889	2	22
Pollock, Emmett Riddle	Illinois	May 18, 1888	4	17
Potter, James Boyd	New Jersey	Sept. 5, 1889	2	22
Powell, William Glasgow	New Jersey	May 18, 1889	2	22
Powelson, Wilfrid Van Nest	New York	Sept. 5, 1889	2	22
Pratt, Alfred Allen	Illinois	Sept. 7, 1889	2	22
Price, Henry Bertrand	Iowa	May 20, 1889	4	14
Procter, André Morton	Kentucky	Sept. 6, 1889	2	22
Read, Frank De Witt	Ohio	Sept. 6, 1889	2	22
Rodney, Warren	Texas	Sept. 6, 1888	1	27
Ryan, John Paul Joseph	New York	May 22, 1889	2	22
Scott, Guy Terrell	Nebraska	Sept. 7, 1889	2	22
Sticht, John Low	New York	Sept. 7, 1889	2	22
Sturdevant, Richard	Pennsylvania	Sept. 6, 1889	2	22
Trench, Martin Edward	Minnesota	Oct. 3, 1889	2	22
Upham, Frank Brooks	Montana	Sept. 6, 1889	2	22
Ward, Henry Heber	New Jersey	Sept. 7, 1889	2	22
Wells, Chester	Pennsylvania	Nov. 15, 1889	0	0
Wilson, Thomas Sheldon	Illinois	May 20, 1889	4	19

Naval Cadets of the Third Class—61 members.

Name.	State from which appointed.	Date of admission.	Sea ser- in prac- ships	
			Months.	
Adams, Lawrence Stowell	Pennsylvania	Sept. 26, 1890	2	
Babin, Provoost	New York	Sept. 6, 1890	2	
Baker, Henry Thomas	Ohio	Oct. 7, 1890	2	
Bennett, Ernest Linwood	Massachusetts	Sept. 24, 1889	2	
Berryman, John Russell	Ohio	May 22, 1890	2	
Bookwalter, Charles Sumner	Illinois	Sept. 8, 1890	2	
Bulmer, Roscoe Carlyle	Nevada	Sept. 26, 1890	2	
Chappell, Ralph Hubert	Michigan	May 22, 1890	2	
Chester, Arthur Tremaine	At large	May 19, 1890	1	
Churchill, Winston	Missouri	May 21, 1890	2	
Cone, Hutch Ingham	Florida	Sept. 5, 1890	2	
Cooper, Ignatius Taylor	Delaware	May 20, 1890	2	
Cox, Daniel Hargate	New York	Sept. 9, 1890	2	
Crosby, Benjamin Gratz	At large	Sept. 26, 1890	2	
De Lany, Edwin Hayden	Tennessee	May 21, 1890	2	
England, Clarence	Arkansas	Sept. 5, 1890	2	
Fullinwider, Simon Peter	Missouri	May 21, 1890	2	
Galbraith, Gilbert Smith	Pennsylvania	Sept. 8, 1890	2	
Gelm, George Earl	New York	May 22, 1890	2	
Gillis, Ervin Van Gorder	New York	Sept. 6, 1890	2	
Graham, Steven Victor	Michigan	May 19, 1890	2	
Griffith, Claude Willis	Maryland	Sept. 8, 1890	2	
Hinds, Alfred Walton	Alabama	Sept. 6, 1890	2	
Hudgins, John Melton	Virginia	Sept. 8, 1890	2	
Hull, Alexander Thomas	Virginia	May 21, 1890	2	
James, Leland Frierson	South Carolina	Sept. 9, 1889	2	
Johnson, Moulton Kinsinger	Ohio	June 10, 1889	2	
Jones, Lewis Benson	New York	May 21, 1889	4	1
Jones, Lewis Burton	New York	May 21, 1890	2	2
Kavanagh, Arthur Glynn	Nebraska	May 20, 1890	2	2
LaBach, Paul Mayer	North Dakota	Sept. 26, 1890	2	2
Lane, Charles Arthur	Missouri	May 20, 1890	2	2
Luby, John McClane	Texas	Sept. 8, 1890	2	2
Lyon, Frank	Kentucky	May 20, 1890	2	2
McLean, Ridley	Tennessee	May 20, 1890	2	2
McMorris, Boling Kavanaugh	Alabama	Sept. 15, 1890	2	2
McNeely, Robert Whitehead	North Carolina	Sept. 8, 1890	2	2
Manion, Walter James	Louisiana	Sept. 6, 1890	2	2
Moody, Roscoe Charles	Maine	Sept. 8, 1890	2	2
Osborn, Robert Hatfield	New York	May 23, 1890	2	2
Perkins, Frederick King	California	June 11, 1890	2	6
Reeves, Joseph Mason	Illinois	Sept. 8, 1890	2	2
Ridgely, Randolph, jr.	Georgia	May 21, 1890	2	2
Robert, William Pierre	Mississippi	May 20, 1890	2	2
Roberts, Thomas Gaines	Alabama	May 27, 1890	2	2
Ryan, George Whitehouse	Massachusetts	June 12, 1890	4	5
Sandoz, Fritz Louis	Louisiana	May 19, 1890	2	2
Scott, William Pitt	Pennsylvania	May 20, 1890	2	2
Sellers, David Foote	New Mexico	May 21, 1890	2	2
Shaw, Melville Jones	Minnesota	Sept. 6, 1890	2	2

Naval Cadets of the Third Class—61 members—Continued.

Name.	State from which appointed.	Date of admission.	Sea service in practice ships.	
			Months.	Days.
Snow, Carlton Farwell	Maine	May 19, 1890	2	23
Spear, Roscoe	Pennsylvania	May 23, 1890	2	23
Stone, George Loring Porter	Georgia	Sept. 26, 1890	2	23
Stone, Raymond	Alabama	Sept. 5, 1890	2	23
Tompkins, John Thomas	Louisiana	Sept. 6, 1890	2	23
Turpin, Walter Stevens	Maryland	May 22, 1890	2	23
Walker, Henry Mallory	South Dakota	Sept. 8, 1890	2	23
Webster, Charles	Massachusetts	Sept. 6, 1890	2	23
Whitted, William Scott	North Carolina	May 20, 1890	2	22
Winn, Philip Bird	Kentucky	Sept. 12, 1890	2	23
Winship, Emory	Georgia	June 3, 1890	2	23

Naval Cadets of the Fourth Class—84 members.

Name.	State from which appointed.	Date of admission.	Age at date of admission.		Sea service in practice ships.	
			Years.	Months.	Months.	Days.
Allison, Louis Beach	Michigan	Sept. 9, 1891	19	4	0	0
Bagley, Worth	North Carolina	Sept. 7, 1891	17	5	0	0
Baldwin, Frank Pardee	New Jersey	Sept. 8, 1891	17	11	0	0
Baldwin, George Ellsworth	Missouri	May 21, 1891	19	4	2	23
Bannon, Philip Michael	Maryland	May 19, 1891	19	2	2	23
Barnes, Cassius Bartlett	Oklahoma	Sept. 7, 1891	19	8	0	0
Bennett, Kenneth Marratt	New Jersey	Sept. 8, 1891	16	9	0	0
Bigelow, Harry Maurice	Maine	Sept. 8, 1891	18	11	0	0
Billings, Frederick Tremaine	New York	May 22, 1891	17	10	0	0
Blandy, Edwin Chauncey	Pennsylvania	May 19, 1891	18	8	2	23
Breckinridge, Joseph Cabell	Ker tucky	Sept. 8, 1891	19	6	0	0
Brumby, Frank Hardeman	Georgia	Sept. 8, 1891	16	11	0	0
Butler, Henry Varnum, jr	New York	Sept. 5, 1891	17	6	0	0
Carmody, Robert Ethridge	New York	Sept. 12, 1891	17	10	0	0
Cruse, Andrew Jackson, jr	Pennsylvania	May 22, 1891	18	4	2	23
Cushman, William Reynolds	New York	Sept. 5, 1891	16	4	0	0
Davidson, William Christopher	South Dakota	Sept. 28, 1891	19	2	0	0
Deane, Russell Andrews	New York	May 19, 1891	17	0	2	23
De Jarnette, James Daniel Coleman	Virginia	Sept. 8, 1890	17	9	0	0
Dennett, Stanley Pullen	Maine	Sept. 5, 1891	18	2	0	0
Dick, Thomas Murrith	South Carolina	Sept. 5, 1891	18	5	0	0
Doane, Eugene Prince	New York	May 22, 1891	15	6	2	23
Dunn, Edward Howard	Connecticut	Sept. 5, 1891	18	5	0	0
Eckhardt, Ernst Frederick	Wisconsin	Sept. 5, 1891	18	9	0	0
Emery, Arthur Ballard	New Hampshire	May 23, 1890	17	7	0	0
Fairbrother, Arthur Lewis	Rhode Island	May 21, 1891	17	11	1	20
Fellows, Richard J	Michigan	Sept. 20, 1891	19	10	0	0
Freeman, Frederic Newton	Indiana	Sept. 9, 1891	15	9	0	0
Garrison, Daniel Mershon	New Jersey	June 1, 1891	17	1	2	23
Gherardi, Walter Rockwell	At large	Sept. 4, 1891	16	1	0	0
Gideon, Walter Ingels	Indiana	Sept. 24, 1891	18	1	0	0
Groesbeck, William Gerard	Ohio	Sept. 4, 1891	17	0	0	0
Hall, Newt Hamill	Texas	Sept. 7, 1891	18	8	0	0
Harrison, Bruce William	Wisconsin	May 21, 1891	18	10	2	23
Henry, James Buchanan, jr	New York	Sept. 22, 1891	15	8	0	0
Houk, Herman Whitelaw	Kansas	Sept. 10, 1891	19	4	0	0
Izard, Walter Blake	South Carolina	Sept. 7, 1891	18	3	0	0
Johnston, Rufus Zenos, jr	North Carolina	Sept. 10, 1891	17	2	0	0
Karns, Franklin D	Ohio	Sept. 30, 1891	17	9	0	0
Kearney, Thomas Albert	Missouri	Sept. 8, 1891	16	6	0	0
Klemann, John Valentine	New York	Sept. 10, 1891	15	10	0	0
Knepper, Orlo Smith	Pennsylvania	Sept. 4, 1891	16	3	0	0
Laning, Harris	Illinois	May 19, 1891	17	7	2	23
Liscom, Arthur Clark	Michigan	May 20, 1891	17	4	2	23
Love, James Monroe, jr	Virginia	May 20, 1891	16	3	2	23
McCormack, Michael James	Michigan	Sept. 8, 1891	17	10	0	0
Mackay, Francis Lodge	Michigan	Sept. 30, 1891	17	3	0	0
Mallory, Charles King	Tennessee	Sept. 25, 1891	16	1	0	0
Mallory, Hugh	Alabama	Sept. 9, 1891	16	10	0	0
Mann, George Hiram	Pennsylvania	Sept. 6, 1890	18	3	2	23
Mansfield, Newton	Ohio	Sept. 7, 1891	17	11	0	0
Marshall, John Francis, jr	Texas	Sept. 8, 1891	17	8	0	0

Naval Cadets of the Fourth Class—84 members—Continued.

Name.	State from which appointed.	Date of admission.	Age at date of admission.		Sea service in practice ships.	
			Years.	Months.	Months.	Days.
Martin, Nathaniel Macon.....	Virginia.....	May 19, 1891	19	8	2	23
Merritt, Darwin Robert.....	Iowa.....	Sept. 10, 1891	19	4	0	0
Mitchell, Ma-on Edward.....	Arkansas.....	Sept. 9, 1891	17	8	0	0
Monaghan, John Robert.....	Washington.....	Sept. 7, 1891	18	5	0	0
Morgan, Alfred.....	Missouri.....	Sept. 8, 1891	19	6	0	0
Morton, James Proctor.....	Missouri.....	Sept. 9, 1891	17	7	0	0
Noyes, Lauren Addison.....	Wisconsin.....	Sept. 10, 1891	18	8	0	0
Olsen, Mack Herman.....	Wisconsin.....	Sept. 10, 1891	17	11	0	0
Pratt, Peter Lloyd.....	Iowa.....	May 19, 1891	16	5	2	23
Raby, James Joseph.....	Michigan.....	Sept. 9, 1891	16	11	0	0
Rucker, William James.....	Illinois.....	Sept. 12, 1891	18	4	0	0
Sayers, Joseph Draper, jr.....	New York.....	Sept. 5, 1891	16	6	0	0
Shea, Patrick Francis.....	New York.....	May 21, 1891	18	3	2	23
Sheffield, Fletcher Lamar.....	Georgia.....	Sept. 7, 1891	15	6	0	0
Shirley, Rufus.....	New York.....	Sept. 9, 1891	18	1	0	0
Smith, Stuart Farrar.....	Pennsylvania.....	Sept. 4, 1891	16	10	0	0
Standley, William Harry.....	California.....	Sept. 7, 1891	18	8	0	0
Takasaki, Motohiko.....	Empire of Japan.....	May 20, 1891	17	9	0	0
Terrell, William Alford.....	Texas.....	Sept. 24, 1891	19	2	0	0
Todd, David Wooster.....	California.....	Sept. 8, 1891	17	2	0	0
Vestal, Samuel Curtis.....	Indiana.....	May 19, 1891	18	1	2	23
Volkmar, Walter Schuyler.....	Pennsylvania.....	Sept. 4, 1891	17	3	0	0
Vollmer, Frederick.....	Iowa.....	Sept. 10, 1891	16	11	0	0
Wadhamis, Albion James.....	New York.....	Sept. 4, 1891	16	4	0	0
Walker, Charles Henry.....	Massachusetts.....	Sept. 8, 1891	17	10	0	0
Walker, James Erling.....	North Carolina.....	Sept. 7, 1891	17	0	0	0
Washington, Pope.....	North Carolina.....	May 29, 1891	18	8	2	23
Watson, Edward Howe.....	Kentucky.....	Sept. 7, 1891	17	6	0	0
White, Henry Harrison.....	Iowa.....	May 21, 1891	18	5	2	23
Williams, Harry Craig.....	Mississippi.....	Sept. 9, 1891	16	7	0	0
Winfield, John Buckner.....	Virginia.....	Sept. 8, 1891	15	10	0	0
Woods, Edward.....	Massachusetts.....	Sept. 8, 1891	15	9	0	0

SUMMARY OF CADETS AT THE U. S. NAVAL ACADEMY.

November 18, 1891.

		Members.
First Class	Line Division.....	34
	Engineer Division.....	6
Second Class.....		51
Third Class.....		61
Fourth Class.....		84
Total.....		236

RELATIVE STANDING OF NAVAL CADETS FOR 1890-'91.

Classes of the Naval Cadets at the United States Naval Academy, at the close of the academic year 1890-'91; with the relative standing of the members in each class, as determined at the annual examination, June, 1891.

** Physically disqualified for the naval service.*

Received 85 per cent. of the multiple.

Found deficient, allowed a reëxamination, passed, and continued with class.

Found deficient, allowed a reëxamination, again deficient, and recommended to be dropped.

Found deficient, and recommended to be dropped.

Retained in next lower class.

a Absent from examination.

b Deficient.

d Dismissed.

e Selected for Engineer Division.

l Honorably discharged at end of four years' course.

r Resigned.

s Sick.

Relative Standing of the Naval Cadets of the First Class—

Order of annual merit.	Name.	State from which appointed.	Date of admission.
†s	Allen, David Van Horn.....	Tennessee	Sept. 6, 1887
31	Althouse, Adelbert	Illinois	May 21, 1887
*4	Belknap, Reginald Rowan	Arkansas	Sept. 5, 1887
25	Bierer, Bion Barnett.....	Kansas	Sept. 24, 1887
6	Blamer, De Witt.....	Iowa	May 19, 1887
39	Blount, Irving.....	Indiana	Sept. 6, 1887
32	Brotherton, William Daniel	Wisconsin	Sept. 6, 1887
23	Caldwell, Harry Handly	Illinois	Sept. 7, 1887
27	Carter, James Francis.....	Pennsylvania	Mar. 24, 1887
17	Christy, Harley Hannibal	Ohio	May 24, 1887
14	Evans, Waldo	Kansas	Sept. 7, 1887
†22	Flowers, Robert Lee	North Carolina	Sept. 7, 1887
*2	Gillmor, Horatio Gonzalo	Wisconsin	Sept. 5, 1887
37	Gross, Louis Herman	Illinois	May 19, 1887
12	Hartung, Renwick John	Iowa	Sept. 6, 1887
13	Hough, Henry Hughes	Massachusetts	Sept. 6, 1887
16	Irwin, Noble Edward	Ohio	Sept. 29, 1887
†34	Kochersperger, Frank Henry.....	Pennsylvania	May 20, 1886
10	Kuenzli, Henry Charles.....	Wisconsin	Sept. 6, 1887
24	Lane, Rufus Herman	Ohio	June 2, 1887
28	Leigh, Richard Henry	Mississippi.....	Sept. 6, 1887
15	Macfarland, Horace Greeley.....	New York	Sept. 6, 1887
35	McKelvy, William Nessler	Pennsylvania	May 20, 1887
33	McLemore, Albert Sidney	Tennessee	May 23, 1887
21	Moale, John Gray Foster.....	California	Sept. 6, 1887
†11	Ninde, Daniel Benjamin	Indiana	May 20, 1887
bw	Nire, Kagekazu	Empire of Japan	May 21, 1887
9	Pollock, Edwin Taylor	Ohio	May 20, 1887
30	Preston, Charles Francis	Maryland	Sept. 6, 1887
38	Richards, George	Ohio	Sept. 12, 1887
19	Senn, Thomas Jones	South Carolina	May 19, 1887
36	Smith, Harry Eaton	Ohio	May 20, 1887
*3	Smith, Henry Gerrish	Ohio	Sept. 5, 1887
20	Smith, Lucien Greathouse	Illinois	June 3, 1887
8	Stearns, Clark Daniel	Michigan	Sept. 5, 1887
29	Sypher, Jay Hale	Arizona	Sept. 5, 1887
26	Theall, Elisha	New York	May 28, 1887
*5	Watt, Richard Morgan	Pennsylvania	Sept. 22, 1887
7	Willard, Arthur Lee	Missouri	Sept. 7, 1887
18	Williams, Dion	Ohio	July 16, 1887
*1	Zahm, Frank Baker	Pennsylvania	Sept. 5, 1887

w Japanese student. Withdrawn at the end of the four years' course.

ine Division—41 members—Annual Examination, June, 1891.

Age at date of admission.		Order of merit.										Number of demerits.	Order of annual merit.
Years.	Months.	Seamanship, naval construction, and naval tactics.	Seamanship, practice cruise.	Ordnance and gunnery.	Navigation and surveying.	Navigation, practice cruise.	Least squares and applied mechanics.	Physics.	International law.	Physiology and hygiene.	Discipline.		
17	3	α	41	α	α	24	α	α	α	α	α	95	18
18	0	30	22	35	23	19	25	37	21	36	28	48	31
16	3	4	1	5	6	11	9	5	5	21	2	5	*4
17	6	28	39	29	14	8	23	30	33	35	31	71	25
15	4	14	26	4	5	1	2	7	8	12	29	39	6
17	6	38	40	38	33	32	37	34	37	37	35	77	39
15	11	23	28	24	30	35	18	29	36	20	36	98	32
14	7	22	11	19	16	28	15	18	24	26	37	87	23
18	0	30	16	27	24	14	32	25	30	15	30	56	27
16	8	26	23	8	10	5	22	10	27	29	22	31	17
17	10	16	25	16	8	9	10	8	34	19	17	26	14
16	10	23	21	24	33	21	18	27	17	18	10	4	122
17	8	1	5	1	4	10	3	1	1	2	4	6	*2
16	2	39	36	32	39	35	32	39	26	32	34	59	37
17	0	10	4	16	20	16	20	17	22	30	6	1	12
16	8	7	12	15	14	19	34	22	23	8	8	4	13
18	0	19	6	13	18	13	8	21	17	23	25	56	16
16	3	29	26	37	36	30	35	27	28	21	33	67	134
16	4	12	34	12	8	4	7	14	6	11	22	22	10
16	7	20	20	20	29	40	24	32	7	13	32	49	24
17	1	37	17	26	27	23	29	26	35	34	17	13	28
14	8	13	14	10	17	26	14	15	11	14	20	22	15
17	11	34	32	38	25	28	39	30	15	31	22	32	35
18	0	36	36	34	37	37	30	33	29	38	21	44	33
16	8	16	7	29	21	26	31	20	19	27	7	5	21
16	10	8	38	9	11	18	6	6	14	15	26	37	111
17	8	40	24	40	40	41	40	40	40	40	38	122	100
16	7	15	10	14	7	6	12	13	16	25	14	22	9
16	4	34	31	29	30	34	28	34	32	28	15	16	30
15	7	32	30	32	33	39	26	34	30	17	40	164	38
15	5	25	32	23	11	17	11	19	24	39	19	17	19
17	5	33	28	36	37	25	36	38	39	32	27	49	36
17	5	3	19	2	2	2	1	3	10	7	3	0	*3
17	6	20	34	21	27	31	16	16	3	4	12	14	20
17	8	11	9	7	13	15	20	12	19	10	8	0	8
16	6	16	7	22	22	32	27	23	12	5	39	148	29
14	5	27	18	28	30	22	37	24	37	24	13	14	26
15	3	5	13	6	3	7	5	10	8	6	10	5	*5
17	7	5	2	11	19	11	16	4	2	1	4	10	7
17	5	9	15	18	25	37	13	9	13	9	15	72	18
16	3	2	3	2	1	3	4	2	4	3	1	3	*1

Relative Standing of the Naval Cadets of the First Class—

Order of annual merit.	Name.	State from which appointed.	Date of admission.
4	Emrich, Charles Rulf -----	Illinois -----	May 19, 1887
7	Laws, George William -----	Iowa -----	May 21, 1887
5	McGrann, William Hugh -----	Tennessee -----	May 20, 1887
2	Reed, Milton Eugene -----	Iowa -----	Sept. 5, 1887
1	Robison, John Keeler -----	Michigan -----	May 20, 1887
3	Rowen, John Howard -----	Pennsylvania -----	Sept. 27, 1887
6	Shepard, George Hugh -----	Wisconsin -----	Sept. 27, 1887

Engineer Division—7 members—Annual Examination, June, 1891.

Age at date of admission.		Order of merit.										Order of annual merit.
Years.	Months.	Naval construction.	Designing machinery.	Marine engines.	Boilers.	Summer practical work in steam engineering.	Least squares and applied mechanics.	Physics and chemistry.	Physiology and hygiene.	Discipline.	Number of demerits.	
16	8	4	5	4	4	3	5	6	4	2	87	4
17	3	6	7	6	7	6	6	6	5	5	125	7
17	7	5	4	7	5	4	4	5	1	3	94	5
17	10	3	2	2	1	2	7	1	2	1	38	2
16	6	1	1	1	2	5	1	2	7	6	143	1
16	8	2	3	3	3	1	2	3	6	4	125	3
15	9	7	6	5	6	7	3	4	3	7	125	6

Relative standing of the Naval Cadets of the Second

Order of annual merit.	Name.	State from which appointed.	Date of admission.
32	Ball, Walter	New York	Sept. 6, 1888
e*1	Beuret, John Dougal	Ohio	Sept. 7, 1888
14	Blakely, John Russell Young	Pennsylvania	Sept. 29, 1888
†	Borden, Thomas Sheppard	Louisiana	Sept. 25, 1888
2r	Breckinridge, Joseph Cabell	Kentucky	Sept. 5, 1888
10	Campbell, Joseph Randolph	Wyoming	Sept. 29, 1888
e23	Crank, Robert Kyle	Texas	Sept. 6, 1888
24	Davis, Austin Rockwell	Georgia	May 21, 1888
6	Davison, Gregory Caldwell	Missouri	May 22, 1888
15	Dawson, William Charles	Missouri	Sept. 6, 1888
7	Day, George Calvin	Vermont	May 19, 1888
2r	Dennett, Stanley Pullen	Maine	May 19, 1888
13	Evans, Holden A	Florida	Sept. 5, 1888
*5	Ferguson, Homer Lenoir	North Carolina	May 21, 1888
31	Gamble, Aaron Lichtenberger	Indiana	Sept. 5, 1888
e*38	Gibbs, Washington Dorsey	Mississippi	May 18, 1888
e35	Hasbrouck, Raymond De Lancy	Idaho	Sept. 25, 1888
17	Hines, John Fore	Kentucky	May 21, 1888
Pr	Hoblitzelle, William Edward	Missouri	Sept. 6, 1888
e*3	Huffington, Howard Williams	Pennsylvania	May 19, 1888
9	Hussey, Charles Lincoln	New Hampshire	May 21, 1888
12	Jewell, Charles Theodore	At large	May 19, 1887
25	Kellogg, Edward Stanley	New York	Sept. 5, 1888
36	Low, Theodore Henry	Connecticut	May 18, 1888
26	McCormick, Benjamin Bernard	New York	May 19, 1888
*2	McDonald, Joseph Ezekiel	Illinois	Sept. 7, 1888
37	Macklin, Charles Fearn	New York	Sept. 25, 1888
8	McNamee, Luke	Kansas	Sept. 6, 1888
28	Mallison, George	North Carolina	May 21, 1888
34	Mather, George Herbert	New Jersey	May 22, 1888
e22	Moses, Stanford Elwood	Georgia	Sept. 6, 1888
20	Myers, John Twiggs	Georgia	Sept. 27, 1887
18	Payne, Fred Rounsville	New York	May 21, 1888
¶s	Pollock, Emmett Riddle	Illinois	May 18, 1888
e*4	Porter, John Singleton	Tennessee	Sept. 25, 1888
27	Pringle, Joel Roberts Poinsett	Illinois	Sept. 6, 1888
†r	Rice, Arthur	Indiana	Sept. 7, 1888
¶s	Rodney, Warren	Texas	Sept. 6, 1888
†	Russell, John Henry, jr	At large	May 18, 1888
11	Sawyer, Frederick Lewis	Illinois	Sept. 6, 1888
19	Sheehan, James	New York	May 21, 1888
33	Stirling, Yates, jr	Massachusetts	Sept. 6, 1888
29	Stitt, Thomas Lutz	Indiana	Sept. 5, 1888

Class—48 members—Annual Examination, June, 1891.

Age at date of admission.		Order of merit.									Number of demerits.	Order of annual merit.
Years.	Months.	Seamanship.	Astronomy.	Steam machinery, marine engines, and boilers.	Summer practical work in steam engineering.	Calculus and mechanics.	Physics and chemistry.	French.	Mechanical drawing.	Discipline.		
16	1	29	26	24	35	22	20	42	32	44	181	32
17	7	12	1	1	4	1	1	3	1	10	47	e*1
16	2	33	13	17	52	4	14	11	2	27	81	14
16	6	23	41	37	34	40	28	9	24	21	59	†
16	6	43	43	44	49	44	44	17	44	39	139	2r
16	6	18	6	10	6	11	8	13	3	8	29	10
16	8	37	28	20	22	25	21	15	25	36	111	e23
16	9	41	37	29	55	18	35	22	23	32	97	24
17	0	13	14	7	13	3	10	31	22	24	59	6
17	5	11	7	19	15	20	12	1	26	10	33	15
16	6	3	9	5	12	5	13	19	17	12	44	7
15	11	41	44	40	39	42	43	38	42	33	103	2r
16	9	6	3	12	10	13	16	17	28	2	13	13
15	2	5	9	8	39	5	5	2	11	18	51	*5
15	10	44	42	25	44	32	31	27	29	21	55	31
16	3	27	35	32	54	15	27	36	43	45	195	er38
17	2	36	27	33	17	37	40	35	15	33	99	e35
17	7	19	15	14	17	23	24	40	13	2	8	17
17	1	a	a	a	26	a	a	a	a	a	26	Pr
15	9	1	11	2	25	14	6	30	6	7	16	e*3
17	3	8	11	8	2	9	15	14	11	5	11	9
15	2	4	16	11	38	8	10	28	5	23	70	12
17	11	23	39	20	11	34	36	43	27	15	40	25
17	8	35	18	40	55	26	19	33	30	40	166	36
15	3	29	38	37	20	38	41	6	18	15	31	26
16	6	2	2	4	5	2	3	21	7	1	9	*2
17	5	38	28	39	35	27	38	43	37	25	61	37
17	5	7	5	14	24	7	7	10	10	2	9	8
17	4	23	30	25	41	29	18	31	34	37	114	28
15	1	8	22	30	44	31	25	37	40	33	111	34
16	0	23	31	28	6	38	31	7	13	20	50	e22
16	8	29	21	23	29	21	28	28	20	29	56	20
16	9	33	32	13	26	12	4	33	45	43	179	18
15	5	a	a	a	30	a	a	a	a	a	25	¶s
15	8	20	4	3	9	10	2	22	15	26	74	e*4
15	7	20	19	35	20	27	31	4	41	31	76	27
17	3	40	35	20	31	43	41	20	4	8	21	†r
17	1	a	a	a	46	a	a	a	a	a	42	¶s
15	6	14	40	43	42	33	28	41	35	12	27	†
17	4	10	7	6	15	16	8	25	19	6	14	11
15	8	17	24	25	31	24	22	16	9	27	91	19
16	4	27	23	30	49	17	31	38	38	41	161	33
15	1	38	33	36	31	34	36	25	21	19	37	29

Relative Standing of the Naval Cadets of the Second

Order of annual merit.	Name.	State from which appointed.	Date of admission.
	4r Stopford, Frederick William -----	Massachusetts -----	May 19, 1888
	30 Symington, Powers -----	West Virginia -----	Sept. 7, 1888
	16 Thompson, Leon Seymour -----	Ohio -----	May 21, 1888
	21 Traut, Frederick Augustus -----	Connecticut -----	May 19, 1888
Pr	Zillman, Christian Charles Herman -----	Missouri -----	Sept. 27, 1888

ass—48 members—Annual Examination, June, 1891—Continued.

Age at date of admission.		Order of merit.									Number of demerits.	Order of annual merit.
Years.	Months.	Seamanship.	Astronomy.	Steam machinery, marine engines, and boilers.	Summer practical work in steam engineering.	Calculus and mechanics.	Physics and chemistry.	French.	Mechanical drawing.	Discipline.		
15	7	14	33	40	47	40	38	24	39	42	177	†
15	11	22	25	34	51	34	23	8	33	29	79	30
14	0	16	17	18	13	19	17	12	31	15	35	16
16	11	32	20	14	26	30	25	5	7	37	102	21
17	8	a	a	a	1	a	a	a	36	12	34	P

Relative Standing of the Naval Cadets of the Third

Order of annual merit.	Name.	State from which appointed.	Date of admission.
¶r	Asbury, Louis George, jr.-----	Louisiana-----	Sept. 7, 1889
2r	Bagley, Worth-----	North Carolina-----	Sept. 5, 1889
2r	Baird, Lewis Conway-----	Indiana-----	Sept. 6, 1889
27	Berry, David Mark-----	California-----	Sept. 6, 1889
*7	Bisset, Eugene Leo-----	Kentucky-----	Oct. 2, 1889
25	Brady, John Richard-----	Pennsylvania-----	Sept. 6, 1889
16	Campbell, Edward Hale-----	Indiana-----	Sept. 6, 1889
42	Carver, Marvin-----	Minnesota-----	Sept. 27, 1889
33	Chadwick, Frank Laird-----	Minnesota-----	May 18, 1889
*6	Clark, Frank Hodges, jr.-----	Rhode Island-----	Sept. 5, 1889
†	Coleman, James Samuel-----	Alabama-----	Sept. 5, 1889
18	Cook, Allen Merriam-----	Kansas-----	May 22, 1889
44	Crocker, John Archdell-----	Pennsylvania-----	May 22, 1889
11	Crosley, Walter Selwyn-----	Connecticut-----	Sept. 9, 1889
15	Doddridge, John Sehon-----	West Virginia-----	Sept. 7, 1889
38	Douglas, Richard Spencer-----	Georgia-----	June 3, 1889
*3	Elder, Edwin Avery-----	Massachusetts-----	May 21, 1889
40	Fewel, Christopher Catron-----	Texas-----	Oct. 2, 1889
*5	Fitch, Claude Eames-----	Illinois-----	Sept. 7, 1889
21	Gise, William Kern-----	Illinois-----	June 14, 1889
2r	Groesbeck, William Gerard-----	Ohio-----	Sept. 5, 1889
12	Groff, Joseph Coblentz-----	Maryland-----	Oct. 3, 1889
31	Hains, Peter Conover, jr.-----	District of Columbia-----	May 18, 1889
43	Holsinger, Gerald Long-----	Kansas-----	Oct. 3, 1889
23	Jackson, Orton Porter-----	Pennsylvania-----	May 18, 1889
¶s	Jones, Lewis Benson-----	New York-----	May 21, 1889
17	Kellogg, Thomas Steele-----	At large-----	Oct. 19, 1889
10	Lang, Charles Jonas-----	Pennsylvania-----	Sept. 6, 1889
41	McKethan, Alfred Augustus-----	North Carolina-----	Sept. 5, 1889
*4	Magill, Louis John-----	Pennsylvania-----	Nov. 11, 1889
*1	Montgomery, William Slack-----	Kentucky-----	Sept. 5, 1889
30	Morris, John Ramsey-----	Missouri-----	Sept. 7, 1889
*8	Nutting, Daniel Chapin, jr.-----	Kansas-----	May 21, 1889
36	Olmsted, Percy Napier-----	Oregon-----	May 21, 1889
13	Parker, Thomas Drayton-----	South Carolina-----	Oct. 3, 1889
32	Pearson, Henry Allen-----	Utah-----	Sept. 6, 1889
20	Perry, Joseph Albert-----	Illinois-----	Sept. 6, 1889
*9	Peugnet, Maurice Berthold-----	Missouri-----	Sept. 7, 1889
48	Potter, James Boyd-----	New Jersey-----	Sept. 5, 1889
35	Powell, William Glasgow-----	New Jersey-----	May 18, 1889
*2	Powelson, Wilfrid Van Nest-----	New York-----	Sept. 5, 1889
45	Pratt, Alfred Allen-----	Illinois-----	Sept. 7, 1889
19	Price, Henry Bertrand-----	Iowa-----	May 20, 1889
47	Procter, André Morton-----	Kentucky-----	Sept. 6, 1889

Class—56 members—Annual Examination, June, 1891.

Age at date of admission.		Order of merit.						Number of demerits.	Order of annual merit.
Years.	Months.	Trigonometry, analytical geometry, and descriptive geometry.	Physics and chemistry.	English, history, and the Constitution.	French, Spanish, and German.	Mechanical drawing.	Discipline.		
19	10	a	a	a	a	a	a	35	Pr
15	5	52	50	50	20	52	50	162	2r
18	2	54	54	59	54	33	53	230	2r
17	7	35	17	39	37	11	14	16	27
18	1	8	4	6	3	25	45	108	*7
16	11	23	25	36	23	25	38	82	25
16	11	3	25	42	37	28	45	142	16
18	5	41	41	31	53	29	43	97	42
17	2	24	27	34	17	50	32	90	33
17	9	6	16	15	12	7	1	33	*6
16	3	42	51	52	28	43	24	41	†
18	8	11	31	19	47	10	19	56	18
17	3	39	43	51	47	34	44	119	44
17	10	13	13	13	15	32	9	19	11
17	1	7	9	9	34	41	28	52	15
17	10	36	44	36	24	42	35	93	38
16	9	4	6	5	5	3	27	57	*3
15	11	22	23	45	37	53	50	117	40
17	0	14	2	18	6	1	15	17	*5
18	0	27	23	8	8	17	31	68	21
15	0	49	53	54	25	37	55	276	2r
19	4	9	22	11	11	34	26	71	12
17	4	29	29	46	35	14	15	44	31
19	3	36	36	31	29	51	40	77	43
15	9	19	33	31	18	21	15	52	23
16	6	a	a	55	a	a	36	64	¶s
18	2	15	32	16	15	21	21	39	17
19	10	12	15	17	12	1	40	95	10
17	10	39	41	42	51	39	21	30	41
18	9	5	9	14	3	9	4	24	*4
16	1	1	1	3	42	12	4	26	*1
19	8	18	12	35	31	49	29	33	36
19	9	25	3	2	7	18	6	18	*8
17	10	44	48	49	44	24	1	23	36
18	2	17	14	9	2	39	29	65	13
19	8	33	27	19	41	34	6	17	32
15	10	10	20	36	37	29	15	29	20
18	7	32	20	7	1	6	9	29	*9
16	8	48	44	42	33	54	47	121	48
17	8	42	47	58	22	4	38	107	35
17	0	2	5	1	9	15	3	27	*2
16	2	46	38	28	49	45	52	144	45
19	11	34	19	4	14	7	6	18	19
16	2	38	34	55	52	21	54	262	47

Relative Standing of the Naval Cadets of the Third

Order of annual merit.	Name.	State from which appointed.	Date of admission.
37	Read, Frank De Witt -----	Ohio -----	Sept. 6, 1889
26	Ryan, John Paul Joseph -----	New York -----	May 22, 1889
46	Scott, Guy Terrell -----	Nebraska -----	Sept. 7, 1889
38	Stearns, Edward Cheever -----	Ohio -----	May 21, 1889
39	Sticht, John Low -----	New York -----	Sept. 7, 1889
34	Sturdevant, Richard -----	Pennsylvania -----	May 6, 1889
24	Trench, Martin Edward -----	Minnesota -----	Oct. 3, 1889
28	Upham, Frank Brooks -----	Montana -----	Sept. 6, 1889
14	Ward, Henry Heber -----	New Jersey -----	Sept. 7, 1889
29	Wells, Chester -----	Pennsylvania -----	Nov. 15, 1889
†r	Whitman, Walter Bloomfield -----	Texas -----	May 20, 1889
22	Wilson, Thomas Sheldon -----	Illinois -----	May 20, 1889

Class—56 members—Annual Examination, June, 1891—Continued.

Age at date of admission.		Order of merit.						Number of demerits.	Order of annual merit.
Years.	Months.	Trigonometry, analytical geometry, and descriptive geometry.	Physics and chemistry.	English, history, and the Constitution.	French, Spanish, and German.	Mechanical drawing.	Discipline.		
19	2	47	36	41	21	29	40	77	37
19	9	29	30	30	26	5	33	74	26
16	8	44	46	40	49	46	48	121	46
17	8	53	52	48	42	15	13	42	27
16	5	31	39	25	46	44	36	64	39
17	7	50	34	25	36	19	19	29	34
19	10	26	11	27	45	20	24	38	24
17	0	19	40	22	18	48	9	22	28
18	3	15	7	22	10	13	48	197	14
19	1	27	8	19	27	38	33	114	29
18	6	51	49	22	29	46	9	25	†
18	1	21	18	12	32	25	21	46	22

Relative standing of the Naval Cadets of the Fourth

Order of annual merit.	Name.	State from which appointed.	Date of admission.
30	Adams, Lawrence Stowell	Pennsylvania	Sept. 26, 1890
Pr 47	Andrews, Claude Norton	Iowa	Sept. 8, 1890
*14	Babin, Provost	New York	Sept. 6, 1890
42	Baker, Henry Thomas	Ohio	Oct. 7, 1890
2r	Baldwin, Murray	Texas	Sept. 27, 1890
1r	Batts, Edward Lee	Texas	May 22, 1890
16	Bennett, Ernest Linwood	Massachusetts	Sept. 24, 1889
59	Berryman, John Russell	Ohio	May 22, 1890
40	Bookwalter, Charles Sumner	Illinois	Sept. 8, 1890
39	Bulmer, Roscoe Carlyle	Nevada	Sept. 26, 1890
50	Chappell, Ralph Hubert	Michigan	May 22, 1890
43	Chester, Arthur Tremaine	At large	May 19, 1890
17	Churchill, Winston	Missouri	May 21, 1890
32	Cone, Hutch Ingham	Florida	Sept. 5, 1890
21	Cooper, Ignatius Taylor	Delaware	May 20, 1890
*3	Cox, Daniel Hargate	New York	Sept. 9, 1890
2r	Craven, Thomas Tingey	Tennessee	Sept. 27, 1890
51	Crosby, Benjamin Gratz	At large	Sept. 26, 1890
1s	DeJarnette, James Daniel Coleman	Virginia	Sept. 8, 1890
2r	DeKay, Eckford Craven	New York	Sept. 26, 1890
56	DeLaury, Edwin Hayden	Tennessee	May 21, 1890
1s	Emery, Arthur Ballard	New Hampshire	May 22, 1890
35	England, Clarence	Arkansas	Sept. 5, 1890
20	Fullinwider, Simon Peter	Missouri	May 21, 1890
52	Galbraith, Gilbert Smith	Pennsylvania	Sept. 8, 1890
57	Gelm, George Earl	New York	May 22, 1890
*8	Gillis, Irvin Van Gorder	New York	Sept. 6, 1890
19	Graham, Steven Victor	Michigan	May 19, 1890
2r	Greer, George Tate	Virginia	May 20, 1890
54	Griffith, Claude Willis	Maryland	Sept. 8, 1890
24	Hinds, Alfred Walton	Alabama	Sept. 6, 1890
23	Hudgins, John Melton	Virginia	Sept. 8, 1890
*10	Hull, Alexander Thomas	Virginia	May 21, 1890
2r	Izard, Walter Blake	South Carolina	Sept. 10, 1890
25	James, Leland Frierson	South Carolina	Sept. 9, 1889
38	Johnson, Moulton Kinsinger	Ohio	June 10, 1889
15	Jones, Lewis Burton	New York	May 21, 1890
22	Kavanagh, Arthur Glynn	Nebraska	May 20, 1890
†	LaBach, Paul Meyer	North Dakota	Sept. 26, 1890
45	Lane, Charles Arthur	Missouri	May 20, 1890
29	Luby, John McClane	Texas	Sept. 8, 1890
49	Lyon, Frank	Kentucky	May 20, 1890
2r	McCormack, Michael James	Michigan	May 22, 1890
*5	McLean, Ridley	Tennessee	May 20, 1890
27	McMorris, Boling Kavanaugh	Alabama	Sept. 15, 1890

88—72 members—Annual Examination, June, 1891.

e at date of admission.		Order of merit.					Order of annual merit.
Years.	Months.	Algebra and geometry.	English and history.	French, Spanish, and German.	Discipline.	Number of demerits.	
15	7	36	50	17	40	49	30
16	6	58	64	24	61	71	<i>Pr</i> 47
18	0	11	3	34	14	21	*14
16	4	44	35	46	48	54	42
17	11	66	27	65	69	250	$\frac{2}{r}$
17	11	63	51	56	21	16	$\frac{1}{r}$
17	10	24	13	14	23	33	16
17	11	59	66	49	67	184	59
16	10	49	26	41	48	47	40
15	11	41	32	43	30	32	39
18	11	29	52	59	33	25	50
15	9	17	52	62	14	25	43
18	6	26	16	8	48	76	17
19	4	25	36	43	28	31	32
17	11	12	25	33	23	17	21
17	6	7	5	4	4	14	*3
17	2	63	58	67	48	66	$\frac{2}{r}$
18	8	54	67	27	48	39	51
17	9	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	87	$\frac{1}{s}$
17	3	68	65	55	65	150	$\frac{2}{r}$
19	2	50	44	62	65	168	56
17	7	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	20	$\frac{1}{s}$
18	2	33	20	43	59	79	35
18	9	10	21	36	10	10	20
18	5	50	55	46	30	25	52
19	7	56	60	64	42	60	57
15	8	3	29	19	10	30	*8
16	2	22	23	9	56	71	19
18	5	52	69	69	62	87	$\frac{2}{r}$
17	11	45	60	51	58	44	54
16	1	15	29	25	48	60	24
18	10	6	52	34	48	50	23
15	5	16	7	6	33	39	*10
17	4	69	32	60	37	27	$\frac{2}{r}$
17	0	35	28	13	59	94	25
19	6	57	29	30	33	35	38
17	5	17	11	10	27	43	15
19	4	8	23	28	64	145	22
18	0	62	43	57	56	42	$\frac{1}{r}$
19	3	42	40	57	33	32	45
16	4	31	46	18	45	32	29
16	1	39	49	39	63	131	49
16	7	65	62	68	42	42	$\frac{2}{r}$
17	6	5	7	20	14	17	*5
18	6	20	13	38	37	36	27

Relative standing of the Naval Cadets of the Fourth

Order of annual merit.			
	Name.	State from which appointed.	Date of admission.
31	McNeely, Robert Whitehead -----	North Carolina -----	Sept. 8, 1890
*9	Manion, Walter James -----	Louisiana -----	Sept. 6, 1890
¶s	Mann, George Hiram -----	Pennsylvania -----	Sept. 6, 1890
37	Moody, Roscoe Charles -----	Maine -----	Sept. 8, 1890
33	Osborn, Robert Hatfield -----	New York -----	May 23, 1890
34	Perkins, Frederick King -----	California -----	June 11, 1890
53	Reeves, Joseph Mason -----	Illinois -----	Sept. 8, 1890
28	Ridgely, Randolph, jr -----	Georgia -----	May 21, 1890
*2	Robert, William Pierre -----	Mississippi -----	May 20, 1890
*1	Roberts, Thomas Gaines -----	Alabama -----	May 27, 1890
18	Ryan, George Whitehouse -----	Massachusetts -----	June 12, 1890
*11	Sandoz, Fritz Louis -----	Louisiana -----	May 19, 1890
41	Scott, William Pitt -----	Pennsylvania -----	May 20, 1890
*13	Sellers, David Foote -----	New Mexico -----	May 21, 1890
*7	Shaw, Melville Jones -----	Minnesota -----	Sept. 6, 1890
†	Snow, Carlton Farwell -----	Maine -----	May 19, 1890
26	Spear, Roscoe -----	Pennsylvania -----	May 23, 1890
48	Stone, George Loring Porter -----	Georgia -----	Sept. 26, 1890
*6	Stone, Raymond -----	Alabama -----	Sept. 5, 1890
*4	Tompkins, John Thomas -----	Louisiana -----	Sept. 6, 1890
55	Turpin, Walter Stevens -----	Maryland -----	May 22, 1890
58	Walker, Henry Mallory -----	South Dakota -----	Sept. 8, 1890
2r	Watson, Edward Howe -----	Kentucky -----	Sept. 26, 1890
*12	Webster, Charles -----	Massachusetts -----	Sept. 6, 1890
44	Whitted, William Scott -----	North Carolina -----	May 20, 1890
46	Winn, Philip Bird -----	Kentucky -----	Sept. 12, 1890
36	Winship, Emory -----	Georgia -----	June 3, 1890

—72 members—Annual Examination, June, 1891—Continued.

at date of admission.		Order of merit.					Order of annual merit.
Years.	Months.	Algebra and geometry.	English and history.	French, Spanish, and German.	Discipline.	Number of demerits.	
17	1	39	18	40	21	25	31
17	9	9	17	7	10	36	*9
18	4	<i>a</i>	<i>la</i>	<i>a</i>	<i>a</i>	22	*13
17	6	47	46	22	48	52	37
16	6	47	38	31	9	15	33
17	6	17	36	31	68	211	34
17	10	53	56	53	18	23	53
18	8	28	32	21	14	23	28
16	10	4	2	16	1	9	*2
19	9	2	1	11	23	47	*1
18	10	27	21	12	4	7	18
18	3	34	13	1	3	11	*11
16	11	43	42	41	18	17	41
16	4	23	12	4	4	7	*13
18	1	20	4	2	10	20	*7
16	2	61	44	49	30	28	†
18	4	38	19	22	40	50	26
15	2	46	57	37	45	52	48
17	1	14	6	3	2	17	*6
19	11	1	9	26	18	39	*4
15	8	54	58	53	42	43	55
19	6	60	67	66	28	5	58
16	7	67	39	48	37	33	*2
16	8	13	10	14	7	8	*12
19	10	31	41	60	23	25	44
19	4	29	62	51	7	8	46
18	3	37	48	28	45	56	36

APPOINTMENTS, DISCHARGES, RESIGNATIONS, DISMISSALS.

December 13, 1890, to November 18, 1891.

APPOINTED ENSIGNS JULY 1, 1891.

Naval Cadet Hoff, Arthur Bainbridge	Class of 1889
Naval Cadet Twining, Nathan Crook	Class of 1889
Naval Cadet Hutchison, Benjamin Franklin	Class of 1889
Naval Cadet Kittelle, Sumner Ely	Class of 1889
Naval Cadet Pratt, William Veazie	Class of 1889
Naval Cadet Marvell, George Ralph	Class of 1889
Naval Cadet Magruder, Thomas Pickett	Class of 1889
Naval Cadet MacDongall, William Dugald	Class of 1889
Naval Cadet Bradshaw, George Brown	Class of 1889
Naval Cadet de Steigner, Louis Rudolph	Class of 1889
Naval Cadet Phelps, William Woodward	Class of 1889
Naval Cadet Kaiser, Louis Anthony	Class of 1889
Naval Cadet Cole, William Carey	Class of 1889
Naval Cadet Brand, Charles Augustine	Class of 1889
Naval Cadet Williams, Philip	Class of 1889
Naval Cadet Terhune, Warren Jay	Class of 1889
Naval Cadet Mitchell, George Grant	Class of 1889
Naval Cadet Harrison, William Kelley	Class of 1889
Naval Cadet Fermier, George Lucien	Class of 1889

APPOINTED ASSISTANT ENGINEERS JULY 1, 1891.

Naval Cadet Nulton, Louis McCoy	Class of 1889
Naval Cadet Patton, John Bryson	Class of 1889
Naval Cadet Danforth, George Washington	Class of 1889
Naval Cadet Carney, Robert Ernest	Class of 1889

APPOINTED ASSISTANT NAVAL CONSTRUCTORS JULY 1, 1891.

Naval Cadet Hobson, Richmond Pearson	Class of 1889
Naval Cadet Rock, George Henry	Class of 1889

APPOINTED SECOND LIEUTENANTS U. S. MARINE CORPS JULY 1, 1891.

Naval Cadet Lucas, Lewis Clark	Class of 1889
Naval Cadet Neumann, Bertram Stansbury	Class of 1889
Naval Cadet Long, Charles Grant	Class of 1889
Naval Cadet Fuller, Ben Hebard	Class of 1889
Naval Cadet Offley, Cleland Nelson	Class of 1889
Naval Cadet Dutton, Robert McMillan	Class of 1889
Naval Cadet Prochazka, Julius	Class of 1889
Naval Cadet Lowndes, Edward Rutledge	Class of 1889

HONORABLY DISCHARGED JUNE 30, 1891, UPON THEIR OWN APPLICATION, WITH CERTIFICATE OF GRADUATION, AT THE END OF THE FOUR YEARS' COURSE.

Naval Cadet Flowers, Robert Lee	Class of 1891
Naval Cadet Kochersperger, Frank Henry	Class of 1891
Naval Cadet Ninde, Daniel Benjamin	Class of 1891

WITHDRAWN JUNE, 1891, AT THE END OF THE FOUR YEARS' COURSE.

al Cadet Nire, Kagekazu..... Japanese student.

RESIGNED.

al Cadet Talcott, Arthur Jewell, fourth class	Jan. 14, 1891
al Cadet Allen, Charles, second class	Feb. 16, 1891
al Cadet Arison, Edgar Emmett, second class	Feb. 19, 1891
al Cadet Logan, William Vance, third class	Feb. 19, 1891
al Cadet Blandy, Edwin Chauncey, fourth class	Feb. 19, 1891
al Cadet Kress, Frederick Charles, fourth class	Feb. 19, 1891
al Cadet McAvoy, Ballard Brownlee, fourth class	Feb. 19, 1891
al Cadet Tolfree, Herbert Myron, fourth class	Feb. 19, 1891
al Cadet Bannon, Philip Michael, second class	Feb. 20, 1891
al Cadet Hooker, James Clifton, third class	Feb. 20, 1891
al Cadet Bivins, Robert Francis, fourth class	Feb. 20, 1891
al Cadet Houk, Herman Whitelaw, fourth class	Feb. 20, 1891
al Cadet Towne, Arthur Elisha, fourth class	Feb. 24, 1891
al Cadet Wishart, William Clifton, third class	Feb. 26, 1891
al Cadet Valentine, William Stanley, third class	May 15, 1891
al Cadet Baird, Lewis Conway, third class	June 8, 1891
al Cadet Dennett, Stanley Pullen, second class	June 17, 1891
al Cadet Groesbeck, William Gerard, third class	June 17, 1891
al Cadet Bagley, Worth, third class	June 17, 1891
al Cadet Baldwin, Murray, fourth class	June 17, 1891
al Cadet Craven, Thomas Tingey, fourth class	June 17, 1891
al Cadet De Kay, Eckford Craven, fourth class	June 17, 1891
al Cadet Greer, George Tate, fourth class	June 17, 1891
al Cadet Izard, Walter Blake, fourth class	June 17, 1891
al Cadet McCormack, Michael James, fourth class	June 17, 1891
al Cadet Watson, Edward Howe, fourth class	June 17, 1891
al Cadet Stearns, Edward Cheever, third class	June 18, 1891
al Cadet Andrews, Claude Norton, fourth class	June 25, 1891
al Cadet Breckinridge, Joseph Cabell, second class	June 27, 1891
al Cadet Gibbs, Washington Dorsey, first class	Sept. 3, 1891
al Cadet Hoblitzelle, William Edward, second class	Oct. 3, 1891
al Cadet Asbury, Louis George, third class	Oct. 7, 1891
al Cadet Zillman, Christian Charles Herman, second class	Oct. 9, 1891
al Cadet Rice, Arthur, second class	Oct. 13, 1891
al Cadet Stopford, Frederick William, second class	Oct. 13, 1891
al Cadet Batts, Edward Lee, fourth class	Oct. 13, 1891

DISMISSED.

al Cadet Feild, Hubbard Moylan, third class	Dec. 18, 1890
al Cadet Dailey, Harry Logan, fourth class	Dec. 18, 1890

MERIT-ROLLS FOR 1890-'91.

Merit-rolls, made out annually for each class, show the proficiency of the cadets in each branch of study. The numbers given in the table, page 75, showing the relative weight of the different branches, are used as coefficients; the final mark in each branch (on a scale of 100) being multiplied by the number assigned to that branch. The sum of the products, after adding the multiple for discipline, is the final mark of the cadet for the year.

In the case of cadets that take an advanced course in any branch, the final mark in that branch is determined by adding to the final mark received in the required course one-fifth of the amount by which the final mark in the advanced course exceeds 2.50.

In the graduating merit-roll, the final standing for the course is determined by the sum of the yearly marks.

"Cadets who attain 85 per cent. of the multiple in any year shall be distinguished by a star affixed to their names on the merit-rolls." (Regulations U. S. Naval Academy, § 191.)

The diplomas of cadets whose final marks on the graduating merit-roll are not less than 85 per cent. of the maximum read "passed with distinction"; those whose final marks are between 74 per cent. and 85 per cent. of the maximum read "passed with credit"; and those whose final marks are between 62½ per cent. and 74 per cent. of the maximum read "passed."

P Physically disqualified for the naval service.

* Received 85 per cent. of the multiple.

† Found deficient, allowed a reëxamination, passed, and continued with class.

‡ Found deficient, allowed a reëxamination, again deficient, and recommended to be dropped.

§ Found deficient, and recommended to be dropped.

¶ Retained in next lower class.

a Absent from examination.

b Deficient.

d Dismissed.

e Selected for engineer division.

l Honorably discharged at end of four years' course.

r Resigned.

s Sick.

Merit-roll of the Naval Cadets of the Graduating Class at the conclusion of the Six Years' Course, June, 1891.

Order of merit.	NAME.	ASSIGNMENT.									
		Seamanship and naval tactics.	Ordnance and gunnery.	Navigation.	Steam-engineering.	Modern languages.	Cruise reports, navigation note books, journals, and station bills.	Aggregate for final examination.	Aggregate for four years.	Final aggregate.	
	Maxima-----	56	44	44	44	28	24	240	760	1000	
1	Arthur B. Hoff-----	46.90	37.73	37.95	38.94	27.94	21.78	211.24	660.75	871.99	Ensign.
2	Nathan C. Twining-----	44.24	40.04	37.62	39.82	26.14	21.18	209.04	642.46	851.50	Ensign.
3	Benjamin F. Hutchison-----	42.14	32.01	32.67	28.71	25.27	20.58	181.38	630.92	812.30	Ensign.
4	Sumner E. Kittelle-----	46.34	33.55	36.52	37.51	24.42	22.68	201.02	603.29	804.31	Ensign.
5	William V. Pratt-----	43.82	32.78	33.44	32.56	23.28	20.88	186.76	612.12	798.88	Ensign.
6	Louis McC. Nulton-----	42.70	33.22	32.56	41.36	22.54	20.88	193.26	588.35	781.61	Assistant engineer.
7	Lewis C. Lucas-----	39.34	39.60	30.91	32.56	21.07	20.22	183.70	587.00	770.70	Second lieutenant, Marine Corps.
8	George R. Marvell-----	39.62	31.68	32.78	31.02	18.48	22.50	176.08	593.73	769.81	Ensign.
9	John B. Patton-----	39.20	35.42	29.81	33.55	21.49	19.62	179.09	566.69	745.78	Assistant engineer.
10	Thomas P. Magruder-----	43.40	37.18	38.39	27.50	21.91	21.60	189.98	555.51	745.49	Ensign.
11	William D. MacDougall-----	41.44	31.68	27.72	33.88	21.70	21.60	178.02	564.08	742.70	Ensign.
12	George B. Bradshaw-----	42.42	34.98	30.80	34.21	24.99	20.22	187.62	549.18	736.80	Ensign.
13	George W. Danforth-----	40.32	31.13	28.71	37.95	19.67	19.38	177.16	559.53	736.69	Assistant engineer.
14	Bertram S. Neumann-----	42.00	28.82	27.50	30.58	20.65	19.32	168.87	565.75	734.62	Second lieutenant, Marine Corps.
15	Charles G. Long-----	40.32	28.60	30.58	27.72	21.28	19.80	168.30	564.93	733.23	Second lieutenant, Marine Corps.
16	Louis R. de Steiguer-----	42.56	36.30	32.01	31.35	18.97	21.60	182.79	549.20	731.99	Ensign.
17	William W. Phelps-----	45.36	34.21	33.77	33.22	19.88	20.82	187.26	543.22	730.48	Ensign.
18	Ben H. Fuller-----	43.26	34.21	36.30	31.24	21.63	19.92	186.56	540.25	726.81	Second lieutenant, Marine Corps.
19	Louis A. Kaiser-----	40.74	33.22	34.21	30.69	22.46	18.78	180.10	542.15	722.25	Ensign.
20	William C. Cole-----	39.90	32.89	29.92	34.87	21.14	21.30	180.02	541.59	721.61	Ensign.
21	Cleland N. Offley-----	38.50	34.76	29.15	35.86	19.25	21.12	178.64	541.87	720.51	Assistant engineer.
22	Charles A. Brand-----	37.80	33.00	30.36	34.87	20.93	20.28	177.24	539.76	717.00	Ensign.

		43.40	31.35	29.37	38.06	22.26	20.10	184.54	529.77	714.31	Assistant engineer.
23	Philip Williams	---	---	---	---	---	---	---	---	---	---
24	Robert E. Carney	39.34	32.67	32.12	31.68	22.12	21.30	179.23	527.19	706.42	Ensign.
25	Warren J. Terhune	---	---	---	---	---	---	---	---	---	---
26	George G. Mitchell	36.54	28.93	29.15	29.37	21.63	20.10	165.72	540.57	706.29	Ensign.
27	William K. Harrison	42.00	34.10	28.60	32.78	21.49	20.52	179.49	510.49	689.98	Ensign.
28	Robert McM. Dutton	41.16	29.04	27.61	30.25	20.51	18.72	167.29	513.55	680.84	Second lieutenant, Marine Corps.
29	Julius Prochazka	39.48	27.72	27.61	28.27	20.93	20.52	164.53	503.51	688.04	Second lieutenant, Marine Corps.
30	George L. Fernier	37.66	28.93	27.50	34.87	19.18	21.42	169.56	492.19	661.75	Ensign.
b	Edward R. Lowndes	43.26	32.12	29.92	33.99	18.48	13.62	170.97	554.67	726.06	Second lieutenant, Marine Corps.

NOTE.—Naval Cadets Richmond B. Hobson and George H. Rock, appointed Assistant Naval Constructors, did not appear at the final graduating examination.

b Deficient in cruise reports.

Merit-roll for the four years ending June, 1890, of the Naval Cadets of the Class appointed in 1886, now performing required service afloat—Line Division.

Order of merit.	NAME.	Aggregate for fourth year.	Aggregate for third year.	Aggregate for second year.	Aggregate for first year.	General aggregate for four years.
	Maxima	304	228	152	76	760
*1	Thomas F. Ruhm	264.08	196.36	137.90	71.25	669.59
*2	Lawrence Spear	270.80	192.80	132.23	68.23	664.06
3	Noah T. Coleman	249.39	186.59	131.22	66.25	633.45
4	Frank H. Schofield	254.01	184.65	125.63	64.51	628.80
5	Jehu V. Chase	236.19	180.78	126.23	66.17	609.37
6	Alonzo Gartley	248.74	177.36	117.80	58.70	602.60
7	Henry J. Ziegemeier	237.07	171.24	130.97	63.06	602.34
8	Cleland Davis	224.66	173.54	126.11	64.87	589.18
9	Matt H. Signor	223.06	169.62	121.96	61.81	576.45
10	John M. Blankenship	231.39	163.57	118.09	61.73	574.78
11	William H. Buck	222.48	160.54	121.09	64.29	568.40
12	Montgomery M. Taylor	219.93	166.17	112.10	62.26	560.46
13	Henry S. Ritter	234.80	158.01	109.60	57.11	559.52
14	George W. Williams	210.68	161.95	120.18	66.17	558.98
15	Albertus W. Catlin	229.47	159.32	109.33	58.53	556.65
16	Charles B. McVay, jr.	219.68	159.95	117.33	58.29	555.25
17	Charles T. Vogelgesang	210.95	158.43	117.42	62.39	549.19
18	Lay H. Everhart	222.76	155.73	112.32	57.34	548.15
19	William A. Snow	215.44	157.26	114.60	59.19	546.49
20	Franklin B. Sullivan	215.46	165.63	105.47	55.65	542.21
21	Claude Bailey	208.52	158.99	112.84	61.67	542.03
22	Wendell C. Neville	220.76	156.69	103.67	58.01	539.13
23	Lawrence H. Moses	200.81	163.29	110.68	64.27	539.05
24	John H. Dayton	216.14	152.86	107.26	58.31	534.57
25	Lucius A. Bostwick	212.63	154.83	107.58	55.80	530.84
26	Charles O. Bond	207.36	161.06	107.02	53.73	529.17
27	Cyrus S. Radford	207.75	158.80	107.16	54.75	528.46
28	Thomas C. Treadwell	198.72	157.27	107.91	61.88	525.78
29	William A. Moffett	201.24	152.26	111.82	60.05	525.37
30	Julius L. Latimer	211.11	155.25	97.95	52.02	516.33
31	John R. Edie	193.06	149.28	105.41	56.49	504.24

Merit-roll for the four years ending June, 1890, of the Naval Cadets of the Class appointed in 1886, now performing required service afloat—Engineer Division.

1	Urban T. Holmes	248.30	181.08	114.52	56.83	600.73
2	Claude B. Price	224.88	166.04	109.15	56.92	556.99
3	Doctor E. Dismukes	204.19	151.62	101.79	54.40	512.00

t-roll, for the four years ending June, 1891, of the Naval Cadets of the Class appointed in 1887, now performing required service afloat—Line Division.

NAME.	Aggregate for first year.	Aggregate for second year.	Aggregate for third year.	Aggregate for fourth year.	General aggregate for four years.
Maxima-----	76	152	228	304	760
1 Frank B. Zahm-----	70.11	144.82	204.95	280.69	700.57
2 Horatio G. Gillmor-----	69.37	142.55	202.97	279.80	694.69
3 Henry G. Smith-----	66.49	135.24	201.49	277.70	680.92
4 Richard M. Watt-----	68.53	135.36	194.21	266.31	664.41
5 Reginald R. Belknap-----	69.19	133.53	189.58	266.89	659.19
6 DeWitt Blamer-----	61.72	130.05	197.28	257.44	646.49
7 Clark D. Stearns-----	64.49	129.78	186.00	251.38	631.65
8 Daniel B. Ninde-----	64.43	133.04	181.15	249.92	628.54
9 Edwin T. Pollock-----	62.72	129.62	185.14	250.33	627.81
10 Henry C. Kuenzli-----	64.22	127.98	184.61	250.03	626.84
11 Arthur L. Willard-----	63.11	123.44	177.37	257.38	621.30
12 Harley H. Christy-----	61.78	126.28	186.24	242.58	616.88
13 Renwick J. Hartung-----	57.77	119.84	175.87	247.90	601.38
14 Henry H. Hough-----	64.30	124.62	164.27	247.74	600.93
15 Noble E. Irwin-----	53.11	118.75	185.26	242.59	599.71
16 Lucien G. Smith-----	64.41	125.45	172.48	236.46	598.80
17 Waldo Evans-----	53.84	118.24	176.95	246.20	595.23
18 John G. F. Moale-----	62.63	122.22	162.87	235.21	582.93
19 Robert L. Flowers-----	53.64	114.22	168.65	234.63	571.14
20 Albert S. McLemore-----	67.69	124.18	155.15	218.21	565.23
21 Thomas J. Senn-----	55.41	107.84	161.42	237.71	562.38
22 Bion B. Bierer-----	51.67	115.04	169.41	226.19	562.31
23 Harry H. Caldwell-----	56.22	110.21	164.05	231.09	561.57
24 Charles F. Preston-----	63.66	121.47	153.13	222.72	560.98
25 Dion Williams-----	55.99	109.91	151.73	242.57	560.20
26 Rufus H. Lane-----	53.51	110.01	163.04	227.85	554.41
27 Jay H. Sypher-----	54.59	112.47	159.26	224.19	550.51
28 Richard H. Leigh-----	53.27	113.49	158.23	224.38	549.37
29 Horace G. Macfarland-----	53.21	101.69	149.35	245.04	549.29
30 William D. Brotherton-----	55.35	111.74	160.00	221.98	549.07
31 Adelbert Althouse-----	53.97	110.26	160.72	222.10	547.05
32 James F. Carter-----	57.01	110.47	152.82	224.54	544.84
33 Frank H. Kochersperger-----	53.95	107.01	159.69	217.19	537.84
34 William N. McKelvy-----	54.51	108.32	152.05	216.90	531.78
35 Harry E. Smith-----	52.00	108.16	154.68	215.72	530.56
36 Elisha Theall-----	49.39	102.37	147.19	225.49	524.44
37 Irving Blount-----	56.09	111.66	150.03	205.01	522.79
38 George Richards-----	48.56	106.21	153.25	208.12	516.14
39 Louis H. Gross-----	49.79	101.34	148.81	211.63	511.57

Merit-roll for the four years ending June, 1891, of the Naval Cadets of the Class appointed in 1887, now performing required service afloat—Engineer Division.

Order of general merit for four years.	NAME.	Aggregate for first year.	Aggregate for second year.	Aggregate for third year.	Aggregate for fourth year.	General aggregate for four years.
	Maxima -----	76	152	228	304	760
1	John K. Robison -----	71.15	130.40	190.11	247.47	639.13
2	John H. Rowen -----	60.31	130.67	184.41	236.71	612.10
3	Milton E. Reed -----	58.72	124.10	168.58	245.46	596.86
4	Charles R. Emrich -----	58.63	117.65	165.61	225.80	567.69
5	William H. McGraun -----	59.45	116.59	161.53	224.07	561.64
6	George H. Shepard -----	62.29	110.02	161.24	216.77	550.32
7	George W. Laws -----	56.76	103.78	151.25	212.54	524.33

MERIT-ROLL—FIRST CLASS.

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Order of annual merit.	NAME.										Aggregate.
	Seamanship, naval construction, and tactical.	Seamanship, practice cruise.	Ordnance and gunnery.	Navigation and surveying.	Navigation, practice cruise.	Least squares and applied mechanics.	Physics.	International law.	Physiology and hygiene.	Discipline.	
	60	8	60	48	8	20	16	12	8	64	304
	Maxima-----										
*1	Frank B. Zahn-----	54.30	6.50	55.65	45.24	7.40	17.85	13.68	7.04	62.08	280.69
*2	Horatio G. Gillmor-----	55.20	6.20	56.70	43.20	7.00	18.55	14.32	7.06	60.32	279.80
*3	Henry G. Smith-----	54.00	5.12	55.65	44.76	7.44	19.50	13.52	6.64	60.48	277.70
*4	Reginald R. Belknap-----	51.90	6.78	53.25	41.76	6.94	15.50	12.92	6.02	60.96	266.89
*5	Richard M. Watt-----	50.85	5.48	52.65	43.32	7.26	17.70	12.24	6.80	59.36	266.31
6	De Witt Blamer-----	46.20	4.56	54.45	42.48	7.58	18.70	12.48	6.42	58.92	257.44
7	Arthur L. Willard-----	50.85	6.58	50.40	36.12	6.94	14.25	13.36	7.40	60.32	257.38
8	Clark D. Stearns-----	47.55	5.72	51.15	37.80	6.86	13.90	12.12	6.40	59.68	251.38
9	Edwin T. Pollock-----	46.05	5.66	49.80	41.16	7.32	14.75	11.92	5.88	57.44	250.33
10	Henry C. Kuenzli-----	47.40	4.24	50.25	39.72	7.88	16.40	11.88	6.44	55.52	250.03
11	Daniel B. Ninde-----	49.20	3.90	50.85	38.28	6.58	16.60	12.76	6.30	55.04	249.92
12	Renwick J. Hartung-----	48.60	6.46	49.20	35.88	6.82	13.90	11.28	5.68	60.00	247.90
13	Henry H. Hough-----	49.35	5.60	49.60	37.44	6.56	12.00	10.96	6.60	59.68	247.74
14	Waldo Evans-----	48.60	4.66	49.20	39.72	7.02	13.45	12.36	6.06	56.80	246.20
15	Horace G. Macfarland-----	47.10	5.42	50.55	36.60	6.00	14.35	11.76	6.38	56.32	245.04
16	Noble E. Irwin-----	44.85	5.92	50.10	36.24	6.90	15.95	11.04	5.94	55.30	242.59
17	Harley H. Christy-----	43.35	4.74	51.00	39.00	7.34	13.85	12.24	5.70	55.52	242.58
18	Dion Williams-----	49.05	5.36	48.90	33.00	5.64	14.40	12.32	6.50	56.96	242.57
19	Thomas J. Senn-----	43.80	4.38	46.95	38.28	6.78	14.80	11.12	5.22	56.48	237.71
20	Lucien G. Smith-----	44.70	4.24	47.25	32.88	5.78	14.25	11.60	6.96	57.76	236.46
21	John G. F. Moale-----	45.60	5.80	44.10	34.20	6.00	12.65	11.08	5.74	59.84	235.21
22	Robert L. Flowers-----	43.95	5.06	46.20	32.40	6.52	14.15	10.56	6.14	59.36	234.63
23	Harry H. Caldwell-----	44.40	5.62	48.45	36.84	5.92	14.30	11.20	5.82	48.64	231.09

Merit-roll of the Naval Cadets of the First Class—Line Division—Annual Examination, June, 1891—Continued.

Order of annual merit.	NAME.	Aggregate.									
		Seamanship, naval construction, and naval tactics.	Seamanship, practice.	Ordnance and gunnery.	Navigation and surveying.	Navigation, practice.	Least squares and applied mechanics.	Physics.	International law.	Physiology and hygiene.	Discipline.
	Maxima.	60	8	60	48	8	20	16	12	8	64
24	Rufus H. Lane	44.70	5.08	47.40	32.76	5.12	13.40	10.12	10.71	6.40	52.16
25	Bion B. Bierer	42.45	3.60	44.10	37.44	7.04	13.75	10.44	9.39	5.50	52.48
26	Elisha Theall	42.75	5.14	44.25	32.52	6.20	11.40	10.76	8.97	5.90	57.60
27	James F. Carter	41.85	5.26	45.00	33.12	6.88	12.50	10.72	9.63	6.30	53.28
28	Richard H. Leigh	39.75	5.16	45.30	32.88	6.18	12.80	10.68	9.27	5.56	56.80
29	Jay H. Sypher	45.60	5.80	47.10	33.72	5.74	13.00	10.84	10.53	6.90	54.96
30	Charles F. Preston	40.95	4.44	44.10	32.52	5.68	12.90	10.00	9.45	5.72	56.96
31	Adelbert Althouse	41.85	4.84	42.90	33.36	6.56	13.20	9.60	10.11	5.44	54.24
32	William D. Brotherton	43.95	4.54	46.20	32.52	5.66	14.15	10.52	9.12	6.04	49.28
33	Albert S. McLeomore	40.65	4.02	43.05	30.84	5.64	12.75	10.08	9.78	5.24	56.16
34	Frank H. Kochersperger	42.15	4.56	42.60	32.04	5.82	11.95	10.56	9.81	6.02	51.68
35	William N. McKelvy	40.95	4.38	39.45	33.00	5.92	11.20	10.44	10.38	5.66	55.52
36	Harry E. Smith	41.25	4.54	42.75	30.84	6.02	11.85	9.48	8.79	5.64	54.56
37	Louis H. Gross	39.00	4.02	43.50	30.60	5.66	12.50	9.32	9.87	5.64	51.52
38	George Richards	41.40	4.48	43.50	32.40	5.38	13.05	10.00	9.63	6.20	42.08
39	Irving Blount	39.15	2.86	39.45	32.40	5.74	11.40	10.00	8.97	5.28	49.76
40	Kagekazu Nire	38.40	4.68	38.10	27.00	5.10	9.80	5.76	8.01	5.10	48.32
41	David Van H. Allen		1.90			6.12					

w Japanese student. Withdrawn at the end of the four years' course.

Merit-roll of the Naval Cadets of the First Class—Engineer Division—Annual Examination, June, 1891.

Order of annual merit.	NAME.	Naval construction.	Designing machinery.	Marine engines.	Boilers.	Summer practical work in steam engineering.	Least squares and applied mechanics.	Physics and chemistry.	Physiology and hygiene.	Discipline.	Aggregate.
	Maxima -----	32	48	40	32	20	40	20	8	64	304
1	John K. Robison----	26.56	39.00	32.90	27.44	17.60	33.80	16.75	5.26	48.16	247.47
2	Milton E. Reed-----	25.04	38.04	28.70	27.60	19.15	26.30	17.45	6.38	56.80	245.46
3	John H. Rowen-----	25.28	36.12	27.60	25.44	19.55	31.60	16.20	5.64	49.28	236.71
4	Charles R. Emrich----	23.60	33.36	26.90	24.08	18.50	26.90	13.80	5.86	52.80	225.80
5	Wm. H. McGramm----	23.36	34.20	26.00	24.00	17.80	27.20	13.85	6.46	51.20	224.07
6	George H. Shepard----	21.12	32.76	26.50	23.04	15.80	30.40	14.35	5.92	46.88	216.77
7	George W. Laws-----	21.68	31.08	26.30	22.00	16.10	26.80	13.80	5.82	48.96	212.54

Merit-roll of the Naval Cadets of the Second Class—48 members—Annual Examination, June, 1891.

Order of annual merit.	NAME.	Seamanship.	Astronomy.	Steam machinery, marine engines, and boilers.	Summer practical work in steam engineering.	Calculus and mechanics.	Physics and chemistry.	French.	Mechanical drawing.	Discipline.	Aggregate.
	Maxima-----	12	12	32	12	48	40	12	12	48	228
e*1	John D. Beuret-----	9.09	11.40	30.72	10.80	45.84	37.70	10.92	11.46	43.20	211.13
*2	Joseph E. McDonald-----	10.14	10.62	28.40	10.62	45.00	34.60	9.48	10.92	45.24	205.02
e*3	Howard W. Huffington-----	11.07	9.93	30.00	9.63	37.32	33.30	8.82	10.98	44.16	195.21
e*4	John S. Porter-----	8.52	10.41	29.92	10.17	39.12	35.40	9.39	10.68	40.92	194.53
*5	Homer L. Ferguson-----	9.66	10.08	26.72	9.33	40.32	33.60	11.16	10.74	42.60	194.21
6	Gregory C. Davison-----	9.03	9.81	27.52	9.99	43.92	32.50	8.79	10.08	41.52	193.16
7	George C. Day-----	9.96	10.08	27.84	10.02	40.32	31.60	9.54	10.65	43.08	193.09
8	Luke McNamee-----	9.36	10.26	24.80	9.66	40.08	32.80	10.08	10.86	45.00	192.90
9	Charles L. Hussey-----	9.24	9.93	26.72	10.89	39.48	31.40	9.81	10.74	44.64	192.85
10	Joseph R. Campbell-----	8.73	10.20	26.08	10.26	38.64	32.60	9.87	11.28	43.68	191.34
11	Frederick L. Sawyer-----	9.21	10.17	27.68	9.96	36.60	32.60	9.09	10.56	44.28	190.15
12	Charles T. Jewell-----	9.72	9.45	25.60	9.39	39.84	32.50	8.94	11.10	41.64	188.18
13	Holden A. Evans-----	9.57	10.59	25.44	10.11	37.44	30.80	9.57	9.39	45.00	187.91
14	John R. Y. Blakely-----	8.31	9.87	24.72	8.61	41.88	31.50	10.05	11.40	40.80	187.14
15	William C. Dawson-----	9.15	10.17	23.92	9.96	34.80	32.30	11.70	9.54	43.20	184.74
16	Leon S. Thompson-----	8.82	9.24	24.32	9.99	35.04	30.20	9.96	9.12	42.96	179.65
17	John F. Hines-----	8.67	9.57	24.80	9.84	34.20	27.00	8.16	10.71	45.00	177.95
18	Fred R. Payne-----	8.31	8.25	25.28	9.60	37.80	34.30	8.67	7.74	35.28	175.23
19	James Sheehan-----	8.76	8.64	22.16	9.51	33.12	27.20	9.63	10.89	40.80	170.71
20	John T. Myers-----	8.37	8.91	22.40	9.57	34.56	26.30	8.94	10.41	40.68	170.14
21	Frederick A. Traut-----	8.34	8.97	24.80	9.60	31.32	26.80	10.62	10.92	38.76	170.13
e22	Stanford E. Moses-----	8.43	8.31	21.92	10.26	30.00	26.10	10.44	10.71	42.36	168.53
e23	Robert K. Crank-----	8.16	8.40	22.80	9.69	31.92	27.80	9.69	9.69	39.24	167.39
24	Austin R. Davis-----	7.86	8.07	21.84	8.07	35.16	26.00	9.39	10.05	40.08	166.52
25	Edward S. Kellogg-----	8.43	7.98	22.80	10.05	30.48	25.90	7.92	9.48	42.96	166.00
26	Benjamin B. McCormick-----	8.37	8.04	20.32	9.72	30.00	25.40	10.56	10.59	42.96	165.96
27	Joel R. P. Pringle-----	8.52	9.06	20.96	9.72	31.56	26.10	10.83	8.07	40.56	165.38
28	George Mallison-----	8.43	8.34	22.16	9.27	31.44	29.20	8.79	8.88	38.76	165.27
29	Thomas L. Stitt-----	8.13	8.22	20.80	9.51	30.48	25.90	9.09	10.17	42.48	164.78
30	Powers Symington-----	8.46	8.58	21.20	8.76	30.48	27.10	10.35	9.00	40.68	164.61
31	Aaron L. Gamble-----	7.50	7.53	22.16	8.94	30.96	26.10	9.06	9.33	41.76	163.34
32	Walter Ball-----	8.37	8.55	22.24	9.42	34.44	28.10	8.04	9.06	35.04	163.26
33	Yates Stirling, jr-----	8.40	8.67	21.68	8.79	35.88	26.10	8.31	8.34	36.60	162.77
34	George H. Mather-----	9.24	8.88	21.68	8.94	31.20	26.80	8.34	8.22	39.36	162.66
e35	R. DeL. Hasbrouck-----	8.22	8.41	21.36	9.84	30.12	25.70	8.58	10.68	39.36	162.35
36	Theodore H. Low-----	8.25	9.15	20.00	9.42	31.68	28.30	8.67	9.27	37.08	161.82
37	Charles F. Macklin-----	8.13	8.40	20.24	9.42	31.56	25.80	7.92	8.49	41.40	161.36
er38	Washington D. Gibbs-----	8.40	8.10	21.60	8.40	37.20	26.50	8.52	7.89	34.32	160.93
†	Arthur Rice-----	7.95	8.10	22.80	9.51	28.32	25.40	9.51	11.19	43.68	166.46
†	Thomas S. Borden-----	8.43	7.62	20.32	9.45	29.40	26.30	10.17	9.84	41.76	163.29
†	John H. Russell, jr-----	8.91	7.83	19.44	9.24	30.60	26.30	8.13	8.73	43.08	162.26
r	Frederick W. Stopford-----	8.91	8.22	20.00	8.88	29.40	25.80	9.30	8.31	36.12	154.94
r	Stanley P. Dennett-----	7.86	7.11	20.00	9.33	29.28	24.50	8.31	8.04	39.36	153.79
†	Joseph C. Breckinridge-----	7.74	7.17	18.32	8.79	27.24	24.10	9.57	7.83	37.68	148.44
Pr	William E. Hoblitzelle-----				9.60						
¶	Emmett R. Pollock-----				9.54						
¶	Warren Rodney-----				8.91						
Pr	Christian C. H. Zillman-----				11.01				8.61	43.08	

Merit-roll of the Naval Cadets of the Third Class—56 members—Annual Examination, June, 1891.

Order of annual merit.	NAME.	Trigonometry, analytical geometry, and descriptive geometry.	Physics and chemistry.	English, history, and the Constitution.	French, Spanish, and German.	Mechanical drawing.	Discipline.	Aggregate.
	Maxima-----	40	20	16	20	24	32	152
*1	William S. Montgomery-----	39.40	18.65	14.44	14.40	23.10	29.20	139.19
*2	Wilfred Van N. Powelson-----	38.00	16.95	14.64	17.40	22.56	29.28	138.83
*3	Edwin A. Elder-----	35.70	16.80	14.24	17.85	24.06	28.08	136.73
*4	Louis J. Magill-----	35.30	15.95	13.72	18.60	23.58	29.20	136.35
*5	Claude E. Fitch-----	31.90	17.90	13.20	17.80	24.12	28.64	133.56
*6	Frank H. Clark, jr-----	34.50	15.25	13.40	17.10	23.64	29.36	133.25
*7	Eugene L. Bisset-----	33.30	17.25	14.16	18.60	21.54	26.08	130.93
*8	Daniel C. Nutting, jr-----	29.30	17.50	14.56	17.60	22.26	29.12	130.34
*9	Maurice B. Peugnet-----	27.40	14.50	14.12	20.65	23.70	29.04	129.41
10	Charles J. Lang-----	32.10	15.30	13.28	17.10	24.12	26.96	128.86
11	Walter S. Crosley-----	32.00	15.45	13.80	16.50	21.06	29.04	127.85
12	Joseph C. Groff-----	33.20	14.45	13.96	17.15	20.76	28.16	127.68
13	Thomas D. Parker-----	31.10	15.40	14.00	19.20	19.86	27.92	127.48
14	Henry H. Ward-----	31.80	16.15	13.04	17.20	22.98	25.76	126.93
15	John S. Doddridge-----	33.90	15.95	14.00	14.80	19.80	28.00	126.45
16	Edward H. Campbell-----	37.80	14.15	12.12	14.60	21.48	26.08	126.23
17	Thomas S. Kellogg-----	31.80	13.75	13.36	16.50	21.66	28.40	125.47
18	Allen M. Cook-----	32.40	13.80	13.12	13.95	23.52	28.56	125.35
19	Henry B. Price-----	26.80	14.75	14.32	16.55	23.64	29.12	125.18
20	Joseph A. Perry-----	33.00	14.50	12.60	14.60	21.30	28.64	124.64
21	William K. Gise-----	28.40	14.25	14.08	17.55	22.32	27.68	124.28
22	Thomas S. Wilson-----	30.30	14.80	13.84	14.90	21.54	28.40	123.78
23	Orton P. Jackson-----	30.40	13.70	12.76	16.10	21.66	28.64	123.26
24	Martin E. Trench-----	28.80	15.80	12.92	14.30	21.78	28.32	121.92
25	John R. Brady-----	30.10	14.15	12.60	15.75	21.54	27.04	121.18
26	John P. J. Ryan-----	27.70	13.90	12.84	15.25	23.76	27.36	120.81
27	David M. Berry-----	26.50	14.90	12.40	14.60	23.40	28.88	120.66
28	Frank B. Upham-----	30.40	13.30	13.04	16.10	18.60	29.04	120.48
29	Chester Wells-----	28.40	16.10	13.12	15.15	20.22	27.36	120.35
30	John R. Morris-----	30.70	15.60	12.68	14.95	18.42	27.92	120.27
31	Peter C. Hains, jr-----	27.70	13.95	11.96	14.75	22.86	28.64	119.86
32	Henry A. Pearson-----	27.20	14.10	13.12	14.50	20.76	29.12	118.80
33	Frank L. Chadwick-----	30.00	14.10	12.72	16.15	18.18	27.60	118.75
34	Richard Sturdevant-----	25.00	13.60	12.96	14.65	21.90	28.56	116.67
35	William G. Powell-----	25.80	12.75	11.32	15.85	23.88	27.04	116.64
36	Percy N. Olmsted-----	25.70	12.65	11.84	14.35	21.60	29.36	115.50
37	Frank De W. Read-----	25.30	13.50	12.32	15.90	21.30	26.96	115.28
38	Richard S. Douglas-----	26.20	13.05	12.60	15.45	19.68	27.28	114.26
39	John L. Sticht-----	27.50	13.35	12.96	14.10	19.08	27.20	114.19
40	Christopher C. Fewel-----	30.20	14.25	12.08	14.60	17.70	25.28	114.11
41	Alfred A. McKethan-----	26.00	13.20	12.12	13.60	19.86	28.40	113.18
42	Marvin Carver-----	25.90	13.20	12.76	13.00	21.30	26.64	112.80
43	Gerald L. Holsinger-----	26.20	13.50	12.76	15.05	17.94	26.96	112.41
44	John A. Crocker-----	26.00	13.10	11.72	13.95	20.76	26.40	111.93
45	Alfred A. Pratt-----	25.60	13.40	12.88	13.65	18.84	25.12	109.49

Merit-roll of the Naval Cadets of the Fourth Class—72 members—Annual Examination, June, 1891.

Order of annual merit.	NAME.	Algebra and geometry.	English and history.	French, Spanish, and German.	Discipline.	Aggregate.
	Maxima -----	20	20	20	16	76
*1	Thomas G. Roberts -----	19.50	18.25	17.80	14.76	70.31
*2	William P. Robert -----	19.35	17.85	17.30	15.28	69.78
*3	Daniel H. Cox -----	17.85	17.40	18.50	15.04	68.79
*4	John T. Tompkins -----	19.65	17.00	16.40	14.84	67.89
*5	Ridley McLean -----	18.35	17.15	16.85	14.88	67.23
*6	Raymond Stone -----	15.80	17.20	18.80	15.12	66.92
*7	Melville J. Shaw -----	15.25	17.70	19.00	14.92	66.87
*8	Irvin Van G. Gillis -----	19.45	15.10	16.90	14.92	66.37
*9	Walter J. Manion -----	16.80	16.15	18.25	14.92	66.12
*10	Alexander T. Hull -----	15.50	17.15	18.35	14.60	65.60
*11	Fritz L. Sandoz -----	14.15	16.30	19.95	15.08	65.48
*12	Charles Webster -----	15.95	16.65	17.60	15.00	65.20
*13	David F. Sellers -----	15.15	16.35	18.50	15.04	65.04
*14	Provoost Babin -----	16.65	17.75	15.45	14.88	64.73
15	L. Burton Jones -----	15.35	16.45	17.85	14.72	64.37
16	Ernest L. Bennett -----	15.00	16.30	17.60	14.76	63.66
17	Winston Churchill -----	14.80	16.20	18.15	14.40	63.55
18	George W. Ryan -----	14.70	15.65	17.75	15.04	63.14
19	Stephen V. Graham -----	15.20	15.50	18.10	14.32	63.12
20	Simon P. Fullinwider -----	16.75	15.65	15.40	14.92	62.72
21	Ignatius T. Cooper -----	16.50	15.45	15.60	14.76	62.31
22	Arthur G. Kavanagh -----	17.25	15.50	16.20	13.32	62.27
23	John M. Hudgins -----	18.25	13.85	15.45	14.40	61.95
24	Alfred W. Hinds -----	15.55	15.10	16.45	14.40	61.50
25	Leland F. James -----	14.10	15.15	17.70	14.20	61.15
26	Roscoe Spear -----	13.95	15.95	16.65	14.52	61.07
27	Boling K. McMorris -----	15.25	16.30	14.95	14.56	61.06
28	Randolph Ridgely, jr -----	14.40	15.05	16.70	14.88	61.03
29	John McC. Luby -----	14.30	14.25	17.05	14.44	60.04
30	Lawrence S. Adams -----	14.05	14.00	17.25	14.52	59.82
31	Robert W. McNeely -----	13.90	16.10	14.85	14.80	59.65
32	Hutch I. Cone -----	14.95	14.95	14.55	14.68	59.13
33	Robert H. Osborn -----	13.30	14.90	15.85	14.96	59.01
34	Frederick K. Perkins -----	15.35	14.95	15.85	12.76	58.91
35	Clarence England -----	14.25	15.85	14.55	14.20	58.85
36	Emery Winship -----	14.00	14.20	16.20	14.44	58.84
37	Roscoe C. Moody -----	13.30	14.25	16.65	14.40	58.60
38	Moulton K. Johnson -----	12.70	15.10	15.90	14.60	58.30
39	Roscoe C. Bulmer -----	13.85	15.05	14.55	14.64	58.09
40	Charles S. Bookwalter -----	13.20	15.35	14.65	14.40	57.60
41	William P. Scott -----	13.65	14.45	14.65	14.84	57.59
42	Henry T. Baker -----	13.60	15.00	14.50	14.40	57.50
43	Arthur T. Chester -----	15.35	13.85	13.30	14.88	57.38
44	William S. Whitted -----	14.30	14.70	13.55	14.76	57.31
45	Charles A. Lane -----	13.75	14.75	13.65	14.60	56.75

Merit-roll of the Naval Cadets of the Fourth Class—72 members—Annual Examination, June, 1891—Continued.

Order of annual merit.	NAME.	Algebra and geometry.	English and history.	French, Spanish, and German.	Discipline.	Aggregate.
	Maxima.....	20	20	20	16	76
46	Philip B. Winn.....	14.35	13.45	13.90	15.00	56.70
Pr47	Claude N. Andrews.....	12.65	13.40	16.50	14.12	56.67
48	George L. P. Stone.....	13.35	13.65	15.10	14.44	56.54
49	Frank Lyon.....	13.90	14.05	14.90	13.60	56.45
50	Ralph H. Chappell.....	14.35	13.85	13.60	14.60	56.40
51	Benjamin G. Crosby.....	12.80	12.75	16.25	14.40	56.20
52	Gilbert S. Galbraith.....	13.15	13.80	14.50	14.64	56.09
53	Joseph M. Reeves.....	12.85	13.75	13.85	14.84	55.29
54	Claude W. Griffith.....	13.50	13.50	13.90	14.24	55.14
55	Walter S. Turpin.....	12.80	13.55	13.85	14.48	54.68
56	Edwin H. DeLany.....	13.15	14.35	13.30	13.16	53.96
57	George E. Gelm.....	12.75	13.50	13.15	14.48	53.88
58	Henry M. Walker.....	12.50	12.75	12.70	14.68	52.63
59	John R. Berryman.....	12.55	12.85	14.20	12.84	52.44
†	Carlton F. Snow.....	12.25	14.35	14.20	14.64	55.44
2r	Edward H. Watson.....	11.15	14.80	14.35	14.56	54.86
†	Paul M. La Bach.....	12.10	14.40	13.65	14.32	54.47
1r	Edward L. Batts.....	12.00	13.95	13.70	14.80	54.45
2r	Walter B. Izard.....	10.35	15.05	13.55	14.56	53.51
2r	Thomas T. Craven.....	12.00	13.55	12.40	14.40	52.35
2r	Murray Baldwin.....	11.80	15.25	13.05	12.08	52.18
2r	Michael J. McCormack.....	11.85	13.45	12.35	14.48	52.13
2r	George T. Greer.....	12.90	12.50	11.75	13.96	51.11
2r	Eekford C. De Kay.....	10.55	13.00	13.80	13.16	50.51
¶s	George H. Mann.....	a	a	a	14.76	-----
¶s	James D. C. De Jarnette.....	a	a	a	13.80	-----
¶s	Arthur B. Emery.....	a	a	a	14.84	-----

REGULATIONS

GOVERNING

THE ADMISSION OF CANDIDATES INTO THE NAVAL ACADEMY AS NAVAL CADETS.

NOMINATION.

I. The students at the Naval Academy shall be styled *naval cadets*.—(*Rev. Stat.*, 1512, and act of Congress approved August 5, 1882.)

II. There shall be allowed at said Academy one naval cadet for every Member or Delegate of the House of Representatives, one for the District of Columbia, and ten at large.—(*Rev. Stat.*, § 1513, and act of Congress approved June 17, 1878.)

III. "The Secretary of the Navy shall, as soon after the fifth of March in each year as possible, notify, in writing, each Member and Delegate of the House of Representatives of any vacancy that may exist in his district. The nomination of a candidate to fill said vacancy shall be made upon the recommendation of the Member or Delegate, if such recommendation is made by the first day of July of that year; but, if it is not made by that time, the Secretary of the Navy shall fill the vacancy. The candidate allowed for the District of Columbia and all the candidates appointed at large shall be selected by the President."—(*Rev. Stat.*, § 1514.)

IV. Candidates allowed for Congressional districts, for Territories, and for the District of Columbia must be actual residents of the districts or Territories, respectively, from which they are nominated. *And all candidates must, at the time of their nomination for admission, be not less than fifteen nor more than twenty years of age, and physically sound, well formed, and of robust constitution.*—(*Rev. Stat.*, § 1517, and act of Congress approved March 2, 1889.)

V. "All candidates for admission into the Academy shall be examined according to such regulations and at such stated times as the Secretary of the Navy may prescribe. Candidates rejected at such examinations shall not have the privilege of another examination for admission to the same class unless recommended by the Board of Examiners." (*Rev. Stat.*, § 1515.)

VI. "When any candidate who has been nominated upon the recommendation of a Member or Delegate of the House of Representatives is found, upon examination, to be physically or mentally disqualified for admission, the Member or Delegate shall be notified to recommend another candidate, who shall be examined according to the provisions of the preceding section."—(*Rev. Stat.*, § 1516.)

VII. "Naval cadets found deficient at any examination shall not be continued at the Academy or in the service unless upon the recommendation of the Academic board."—(*Rev. Stat.*, § 1519.)

VIII. "The academic course of *naval cadets* shall be six years."—(*Rev. Stat.*, § 1520.)

IX. Candidates that may be nominated in time to enable them to reach the Academy by the fifteenth of May will receive permission to present themselves on that date to the superintendent for examination for admission. Those that may not be nominated in time to present themselves at the May examination will be examined on the first of September following.

When either of the above dates shall fall on Sunday the candidates shall present themselves on the Monday following.

Candidates will be required to enter the Academy immediately after passing the prescribed examinations.

No leaves of absence will be granted to cadets of the fourth class,

EXAMINATION.

X. Candidates will be examined physically by a board composed of three medical officers of the Navy. Any one of the following conditions will be sufficient to cause the rejection of a candidate, viz.:

- Feeble constitution, inherited or acquired;
 - Retarded development;
 - Impaired general health;
 - Decided cachexia, diathesis, or predisposition to disease;
 - Any disease, deformity, or result of injury that would impair efficiency; such as—
 - Weak or disordered intellect;
 - Cutaneous or communicable disease;
 - Unnatural curvature of spine, torticollis, or other deformity;
 - Inefficiency of either of the extremities or large articulations from any cause;
 - Epilepsy or other convulsions within five years;
 - Impaired vision, disease of the organs of vision, imperfect color sense;
 - Impaired hearing or disease of the ear;
 - Chronic nasal catarrh, ozæna, polypi, or great enlargement of the tonsils;
 - Impediment of speech to such an extent as to impair efficiency in the performance of duty;
 - Disease of heart or lungs or decided indications of liability to cardiac or pulmonary affections;
 - Hernia or undescended testis;
 - Varicocele, sarcocele, hydrocele, stricture, fistula, hemorrhoids, or varicose vein of lower limbs;
 - Disease of the genito-urinary organs;
 - Chronic ulcers, ingrowing nails, large bunions or other deformity of feet.
- Attention will also be paid to the stature of the candidate, and no one manifestly under size for his age will be received at the Academy. In the case of doubt about the physical condition of the candidate any marked deviation from the usual standard of height or weight will add materially to the consideration for rejection. Five feet will be the minimum height for the candidate.

Table showing the minimum height for admission, for each year between the ages of fifteen and twenty years.

Age-----	15	16	17	18	19	20
Height (inches) -----	60	60½	62	62½	62¾	63

Table showing mean height, weight, and chest-girth of lads between the ages of fifteen and twenty years.

Age.	Height (without shoes).	Weight (including clothes).	Chest-girth (chest empty).
	Inches.	Pounds.	Inches.
15-----	63½	110	31
16-----	66½	126	33
17-----	68	140	34
18-----	68½	146	34½
19-----	68¾	148	34½
20-----	69	150	35

XI. Candidates will be examined mentally by the academic board in reading, writing, spelling, arithmetic, geography, English grammar, United States history, and algebra. Deficiency in any one of these subjects will be sufficient to insure the rejection of the candidate.

GENERAL CHARACTER OF THE MENTAL EXAMINATION.

READING AND WRITING.—Candidates must be able to read understandingly, and with proper accent and emphasis, and to write legibly, neatly, and rapidly.

SPELLING.—They must be able to write from dictation paragraphs from standard pieces of English literature, both prose and poetry, sufficient in number to test fully their qualifications in this branch. The spelling throughout the examination will be considered in marking the papers.

ARITHMETIC.—The candidate will be required—

To express in figures any whole, decimal, or mixed number; to write in words any given number; to perform with facility and accuracy the various operations of addition, subtraction, multiplication, and division of whole numbers whether abstract or concrete, and to use with facility the tables of money, weights, and measures in common use, including English money.

To reduce compound numbers from one denomination to another, and to express them as decimals, or fractions of a higher or lower denomination; to state the number of cubic inches in a gallon, and the relation between the Troy and Avoirdupois pounds, and to reduce differences of time to differences of longitude and *vice versa*.

To define prime and composite numbers; to give the tests of divisibility by 3, 5, 7, 9, 11, 25, and 125; to resolve numbers into their prime factors, and to find the least common multiple and the greatest common divisor of large as well as of small numbers.

To be familiar with all the processes of common and decimal fractions, and to give clearly the reasons for such processes, and to be able to use the contracted methods of multiplication and division given in the ordinary text-books on arithmetic.

To define ratio and proportion, and to solve problems in simple and compound proportion.

To solve problems involving the measurement of rectangular surfaces and of solids, to find the square roots and the cube roots of numbers, and to solve simple problems under percentage, interest, and discount.

The candidates are required to possess such a thorough understanding of all the fundamental operations of arithmetic as will enable them to apply the various principles to the solution of any complex problem that can be solved by the methods of arithmetic; in other words, they must possess such a complete knowledge of arithmetic as will enable them to proceed at once to the higher branches of mathematics without further study of arithmetic.

ALGEBRA.—The examination in *algebra* will be elementary in character, and will be limited to questions and problems upon the fundamental rules, factoring, algebraic fractions, and simple equations of one or more unknown quantities.

GRAMMAR.—In *English grammar* candidates must exhibit a familiarity with all the parts of speech and the rules in relation thereto; they must be able to parse any ordinary sentence given to them, and generally must understand those portions of the subject usually taught and comprehended under the heads of orthography, etymology, and syntax.

The questions will usually be arranged in three divisions. The first division will contain questions somewhat like these:

Explain the use of the objective case. What verbs have distinction of voice? Give the possessive plural of *sea*, *valley*, *basis*, *stratum*, *bandit*.

The second division will contain one or more sentences to be parsed; *e. g.*,

"They were always a strange family; they rarely acted like other people; their hearts were in the right place, but their heads always seemed to be doing anything but what they

ought." Such a sentence must be parsed *fully*, giving the part of speech, and kind, case, voice, mood, tense, number, person, degree of comparison, etc., as the case may be, of each word, and its relation to the other words; thus,—

Strange is a descriptive adjective, positive degree. It qualifies the noun *family*.

Comparative, *stranger*.

Superlative, *strangest*.

Acted, an intransitive verb, regular (or weak) in conjugation, indicative mood, past tense, third person, plural number. Its subject is *they*.

The third division will contain a number of incorrect sentences to be corrected; thus,—

1. *Describe the sources from which our knowledge of these events are derived.* 2. *How sweetly their voices sound!* 3. *Try and do as you was told!* 4. *I should have liked to have been there and seen it.* 5. *There's a sweet little cherubim sits up aloft to keep watch for the life of Poor Jack!*

Among these, correct sentences will sometimes be introduced to test more thoroughly the knowledge of the candidate.

Since the school grammars used in different parts of the country vary among themselves in their treatment of certain words, an answer approved by any grammar of good repute will be accepted.

GEOGRAPHY.—Candidates will be required to pass a satisfactory examination, written or oral, or both, in descriptive geography, particularly of our own country. Questions will be given under the following heads: the definitions of latitude and longitude; the zones; the grand divisions of the land and water; the character of coast lines; the direction and position of important mountain-chains and the locality of the higher peaks; the position and course of the principal rivers, their tributaries, and the bodies of water into which they flow; the position of important seas, bays, gulfs, and arms of the sea; the position of independent states, their boundaries and capital cities; the position and direction of great peninsulas and the situation of important and prominent capes, straits, sounds, channels, and the most important canals; great lakes and inland seas; position and political connection of important islands, and colonial possessions; localities of cities of historical, political, or commercial importance, attention being especially called to the rivers and bodies of water on which cities are situated; the course of a vessel in making a voyage between well known ports.

The candidate's knowledge of the geography of the *United States* can not be too full or specific on all the points referred to above. Accurate knowledge will also be required of the position of the country with reference to other States, and with reference to latitude and longitude, of the boundaries and relative position of the States and Territories, of the name and position of their capitals, and of other important cities and towns.

HISTORY.—Candidates should be familiar with as much of the history of the United States as is contained in the ordinary school histories.

The examination will be either written or oral, or both, and questions of the same general character as the following will be given:

1. Name the earliest European settlements within the present limits of the United States, and give their positions. When and by whom were these settlements made?
2. Explain the three forms of government in the colonies; royal, proprietary, and charter. Name the colonies that originally existed within the present limits of Massachusetts; of Connecticut. When were these colonies united? What did the colony of Pennsylvania include? When was it divided?
3. State the leading events of the colonial wars, and give the results of each war.
4. What were the remote and immediate causes of the Revolution. Explain the navigation acts, the stamp act, writs of assistance. Name the principal battles and other leading events in the wars of the United States, giving the names of commanding officers and stating the results of the battles.

5. Give an account of the formation and adoption of the Constitution. Give the names of the Presidents, in order, and the leading events in each administration.

ADMISSION.

XII. Candidates that pass the physical and mental examinations will receive appointments as naval cadets, and become students at the Academy. Each cadet will be required to sign articles by which he binds himself to serve in the United States Navy eight years (including his time of probation at the Naval Academy) unless sooner discharged. The pay of a naval cadet is \$500 a year, commencing at the date of his admission.

XIII. Cadets will supply themselves, immediately after their admission, with the following articles, viz.:

One dress jacket	\$20.50	One jack knife	\$0.70
One blouse	11.50	Six sheets	3.36
Two pairs trousers	22.00	Hammock clews .....	.51
Two working suits	1.86	One pair of bathing trunks .....	.20
One overcoat	23.00	Three pairs of white thread gloves .....	.60
One rubber coat	4.00	Two black silk neckties .....	.64
One rubber hat .....	.55	Two clothes bags .....	.46
Two pairs of regulation leggins ..	1.40	One hammock mattress	2.85
One parade cap	2.55	aOne requisition book .....	.40
One knit cap .....	.66	aOne pass book .....	.40
One mug .....	.10	aStencil, ink, and brush .....	.45
One soap box .....	.62	aOne bottle of indelible ink .....	.18
One laundry book .....	.34	aOne wash basin and pitcher .....	.88
One pair of blankets	2.90	aOne pair of gymnasium slippers ..	1.10
Two pairs of high shoes	6.80	*One whisk .....	.13
One pair of overshoes .....	.53	*One coarse comb .....	.13
Eight white shirts	8.00	*One cake of soap .....	.10
Twelve linen collars	2.04	*One hair brush .....	.50
Eight pairs of cuffs	2.00	*Stationery .....	.50
*Eight pairs of socks	1.84	*Twelve white handkerchiefs	2.76
*Eight towels	2.00	*One pair of suspenders .....	.40
*Shaving outfit	1.61	*Four night shirts	2.52
*Four pairs of drawers (winter) ..	4.00	*One toothbrush .....	.23
bFour pairs of drawers (summer) ..	1.52	*Thread and needles .....	.19
*Four undershirts (winter)	4.00	*Blacking brush and blacking .....	.57
bFour undershirts (summer)	1.52	*Nail brush .....	.25
One hand glass .....	.36		
			<hr/>
			21.01
	<hr/>		
	128.20		

When moving into cadet quarters, cadets will supply themselves with the following articles, viz.:

aTwo bedspreads	\$2.84	One mirror	\$1.21
aTwo pairs of drill gloves	1.00	aOne rug .....	.80
aOne slop jar .....	.90	aOne hair mattress	5.10
aTwo spatter-cloths .....	.66	aOne broom .....	.25
One hair pillow .....	.75	Six pillow cases	1.38
			<hr/>
	6.15		8.74

Cadets will supply themselves with the following additional articles when preparing to embark on board the practice ship, viz.:

Three working suits	\$2.79	One pair rubber leggins	\$0.40
Four woolen shirts	7.40	One pair of high shoes	3.40
Three white sailor hats .....	.93	One knit cap .....	.66
			<hr/>
	11.12		4.46

Articles marked *a* will not be taken on board the practice ship.

Of the articles marked *b* cadets entering in September must have four each.

The articles marked *, not being required to conform to a standard pattern, may be brought by the cadet from home, but all other articles must conform to the regulations, and must therefore be supplied by the storekeeper.

Each naval cadet must on admission deposit with the pay-officer the sum of \$20, for which he will be credited on the books of that officer, to be expended by direction of the superintendent in the purchase of text-books and other authorized articles beside those enumerated in the preceding article.

All deposits for clothing and the entrance deposit of \$20 must be made before a candidate can be received into the Academy.

SUMMARY OF EXPENSES.

Deposit for clothing, etc	\$179.68
Deposit for books, etc	20.00
	<hr/>
Total amount required	199.68

The value of clothing brought from home is to be deducted from this amount.

Each naval cadet *one month after admission* will be credited with the amount of his actual expenses in traveling from his home to the Academy.

COURSE OF INSTRUCTION.

[Reference books are marked (*).]

FIRST YEAR—FOURTH CLASS.

FIRST TERM.

Department.	Number of citations a week.	Number of months.	Subjects.	Text-books.
<i>Mathematics.</i>	4	4	ALGEBRA: Fundamental operations; reduction and conversion of fractional and surd quantities; reduction and solution of equations of the first and second degrees; inequalities; involution and evolution.	Hall and Knight's Elementary Algebra. Hall and Knight's Higher Algebra. Todhunter's Algebra.*
	2	4	GEOMETRY: Geometry of the straight line, of the circle, and of the plane; theory of proportion; properties of similar figures.	Chauvenet's Geometry.
<i>English Studies, History, and Law.</i>	2	4	ENGLISH: The structure and historical development of the English language; syntax; analysis of sentences; punctuation and capitals; exercises in the composition of letters.	Whitney's Essentials of English Grammar. Hart's Punctuation. Webster's Dictionary.*
	3	4	HISTORY: Outlines of history, especially the history of Greece and Rome, and of the states of western Europe; historical geography; important points in naval history, by notes or lectures.	Swinton's Outlines of the World's History. Labberton's Historical Atlas.*
<i>Modern Languages.</i>	5	4	FRENCH: "Natural method of teaching languages."	La Parole Française, Sauveur and Van Daell. Bellows's Pocket Dictionary.*

COURSE OF INSTRUCTION.

FIRST YEAR—FOURTH CLASS—Continued.

SECOND TERM.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Mathematics.</i>	3	4	ALGEBRA: Course for first term continued. Development of algebraic functions by means of indeterminate co-efficients and the binomial theorem; permutations and combinations; summation of series; continued fractions; logarithms; exponential equations; theory of equations, including the solution of numerical equations.	Hall and Knight's Higher Algebra. Bowditch's Useful Tables.
	2	4	GEOMETRY: Course for first term continued. Spherical geometry; the cone and the cylinder; mensuration of rectilinear figures, and of the sphere, cone, and cylinder; application of algebra to determinate geometry.	Chauvenet's Geometry.
<i>English Studies, History, and Law.</i>	2	4	ENGLISH: Rhetoric and composition; choice and use of words; kinds of composition; narration and description; argumentative composition; exercises in the composition of letters and telegrams. Themes.	A. S. Hill's Rhetoric. Ayres's Orthoëpist.* Ayres's Verbalist.* Webster's Dictionary.*
	3	4	HISTORY: Progress of colonial development in America, and the history of the United States; important points in the naval history of the United States, by notes or lectures.	Eliot's History of the United States. Mitchell's Atlas.*
<i>Modern Languages.</i>	5½	4	FRENCH: "Natural Method." SPANISH: (Given as an advanced course.) "Natural Method." GERMAN: (Given as an advanced course.) "Natural Method."	Bercy's La Langue Française, 1 ^{re} partie. Histoire d'un Concert. Bellows's Pocket Dictionary.* Worman's First Spanish Book. Seoane's Dictionary.* Dreysprung's Cumulative Method and German Verb Drill. Wenckebach und Schrakamp's Deutsche Grammatik. Whitney's Dictionary.*

SECOND YEAR—THIRD CLASS.

FIRST TERM.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Mathematics.</i>	1	4	DESCRIPTIVE GEOMETRY: Orthographic projections; representation of points, lines, and planes; problems relating to the right line and the plane; representations of surfaces of the second order.	Church's Descriptive Geometry.
	4	4	TRIGONOMETRY: Measures of arcs and angles, trigonometric functions; analytical investigations of trigonometric formulas, with their application to all the cases of plane and spherical triangles, construction and use of trigonometric tables; inverse trigonometric functions; De Moivre's theorem; solution of trigonometric equations; practical applications of trigonometry to the solution of plane and spherical triangles, the astronomical triangle, and the measurements of heights and distances.	Chauvenet's Trigonometry. Todhunter's Trigonometry. Bowditch's Useful Tables.
<i>English Studies, History, and Law.</i>	2	1	ENGLISH: Classification of words; definition of words by usage and by derivation; synonyms; laws of change in the meaning of words; faults in diction and their remedies; selection and arrangement; elementary principles of reasoning; principles of composition; exercises in the composition of official dispatches, letters, and telegrams. Themes.	Abbott and Seeley's English Lessons for English People. Abbott's How to Write Clearly. Ayres's Orthoëpist.* Ayres's Verbalist.* Webster's Dictionary.*
	2	4	LAW: The Constitution of the United States.	Andrews's Manual of the Constitution.
<i>Modern Languages.</i>	3	4	FRENCH: "Natural method." SPANISH: (Given as an advanced course.) "Natural method." GERMAN: (Given as an advanced course.) "Natural method."	Böcher's Series of French Plays. Bercy's La Langue Française, 2 ^e partie. Bellows's Dictionary.* Sauveur's Petite Grammaire. Ybarra's English-Spanish Method. Dreyspring's Cumulative Method and German Verb Drill. Wenckebach und Schrakamp's Deutsche Grammatik. Jeffcott & Tossell's German Newspaper Reading Book. Whitney's Dictionary.

SECOND YEAR—THIRD CLASS—Continued.

FIRST TERM—continued.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Mechanical Drawing.</i>	4	4	MECHANICAL DRAWING: Sketching from models; the use of instruments; construction of scales; notation and symbols used in mechanical drawings; construction of rectilinear and curved figures to scale; drawing section lines; round writing. Drawing exercises in descriptive geometry, including the projections of lines and the representation of planes and geometrical solids, and the projections and sections of surfaces and solids.	Tomkin's Machine Construction.*

SECOND TERM.

<i>Physics and Chemistry.</i>	5	4	<p>PHYSICS: An elementary course intended to present the leading principles and the correlation of the branches of physical science, to which more time is devoted during the second and first class years. Constant practice with the fundamental and derived units of the C. G. S. system. Practical work in the physical laboratory; experiments illustrating the daily recitations and exact measurements of length, mass, volume, and specific gravity. Lectures.</p> <p>CHEMISTRY: Recitations in general and organic chemistry. Practical work in the chemical laboratory; experiments illustrating the daily recitations, and the determination of simple salts, acids, and bases. Lectures.</p>	<p>Daniell's Principles of Physics.</p> <p>Practical Physics, by Stewart and Gee.</p> <p>Remsen's General Chemistry.</p> <p>Remsen's Organic Chemistry.</p> <p>Lecture Notes.</p>
<i>Mathematics.</i>	1	4	DESCRIPTIVE GEOMETRY: Course for first term continued. Warped surfaces, and surfaces of revolution; development of single-curved surfaces; intersection of surfaces; tangent lines and planes; projections of the sphere; axometric projections; shades and shadows.	Church's Descriptive Geometry.
	4	4	ANALYTICAL GEOMETRY: Equations of the straight line and of the conic sections; transformation of coördinates; properties of the conic sections; equations to tangents and normals; determination of loci; discussion of the general equation of the second degree; equations of the plane, of lines in space, and of surfaces of the second order; the principal properties of surfaces of the second order; discussion of the general equation of the second degree in three variables.	<p>C. Smith's Conic Sections.</p> <p>Aldis's Solid Geometry.</p>

SECOND YEAR—THIRD CLASS—Continued.

SECOND TERM—continued.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Modern Languages.</i>	2	4	<p>FRENCH: Course of the first term continued.</p> <p>SPANISH: Course of the first term continued.</p> <p>GERMAN: Course of the first term continued.</p>	Same as for the first term.
<i>Technical Drawing.</i>	2½	4	<p>MECHANICAL DRAWING: Sketching from models; representation of objects by projections; drawing the projections of models to scale; oblique projections; isometrical drawing; drawing screws, bolts, nuts, and gearing; round writing. Drawing exercises in descriptive geometry, including the intersections of surfaces, development of single-curved surfaces, and problems on the surfaces of revolution.</p>	Tomkin's Machine Construction.

COURSE OF INSTRUCTION.

THIRD YEAR—SECOND CLASS.

FIRST TERM.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text books.
<i>Seamanship, Naval Construction, and Naval Tactics.</i>	1	4	SEAMANSHIP: Description and uses of sails, their fittings and appliances; handling sails, port drills and evolutions; management under sail; duties of officers and crew.	Luce's Seamanship.
<i>Steam Engineering.</i>	3	4	PRINCIPLES OF MECHANISM: Marine engines and boilers. Properties of heat and its application to water; combustion; laws and properties of steam; types of marine boilers; comparative efficiency; names and uses of their attachments; hydrometers; scale and its prevention; types of marine engines, including condensers and pumps, with explanation of the use of all the parts; screw propellers and paddle wheels; the indicator and its diagrams; power of the engine and computations relating thereto; casualties; care and management of steam machinery.	Goodeve's Elements of Mechanism. Sennett's Marine Steam Engine.
<i>Mechanics and Applied Mathematics.</i>	5	2	DIFFERENTIAL CALCULUS: Functions; rates; differentials of functions; indeterminate forms; series; maxima and minima; geometrical applications; functions of two or more variables.	Rice and Johnson's Differential Calculus.
	5	2	INTEGRAL CALCULUS: The methods of integration; definite integrals; quadrature of surfaces; cubiture of volumes; rectification of curves; centres of gravity; moments of inertia; planimeters; rules for the approximate determination of areas and volumes; differential equations.	Johnson's Integral Calculus. Johnson's Differential Equations.
<i>Physics and Chemistry.</i>	4	4	PHYSICS: Recitations on simple harmonic motion; wave motions, sound, light, and heat. Practical work in the physical laboratory; experiments illustrating the daily recitations, and some exact measurements, such as the determination of the candle power of gas and electric lights, index of refraction of glass prisms and lenses and of liquids, focal length of lenses; length of light waves. Photography. CHEMISTRY: Short course in chemical analysis.	Daniell's Principles of Physics. Ganot's Physics. Stewart's Treatise on Heat. Practical Physics, by Stewart and Gee. Kohlrausch's Physical Measurements. Lecture Notes.

THIRD YEAR—SECOND CLASS—Continued.

FIRST TERM—continued.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Modern Languages.</i>	1	4	FRENCH: Reading and translation of professional articles, and conversation.	Professional French Reader. Bellows's Pocket Dictionary.* Sauveur's Petite Grammaire.* Langage Marin, Anglais-Français.
<i>Mechanical Drawing.</i>	2	4	MECHANICAL DRAWING: Drawing gearing; sketching machinery and making working drawings; round writing; tracings and blue prints of drawings; perspective.	Tomkin's Machine Construction.*

SECOND TERM.

<i>Seamanship, Naval Construction, and Naval Tactics.</i>	1	4	Course of the first term continued.	Same as for the first term.
<i>Astronomy, Navigation, and Surveying.</i>	2	4	THE CELESTIAL SPHERE: Spherical and rectangular coördinates; use of instruments, especially those for determining terrestrial latitudes and longitudes; refraction; dip; parallax; the earth, sun, planets, and solar system in general; different units of time and calendars; laws of universal gravitation, precession, nutation, and aberration; the moon; eclipses and occultations; tides; comets and meteoric bodies; fixed stars; nebulae; motion of the solar system; solutions of the astronomical triangle; use of the Nautical Almanac.	Young's General Astronomy. Bowditch's Navigator. American Ephemeris and Nautical Almanac.
<i>Steam Engineering.</i>	3	4	Course of the first term continued.	Same as for the first term.
<i>Mechanics and Applied Mathematics.</i>	5	4	MECHANICS: Kinematics; dynamics; kinetics; hydromechanics; the motion of projectiles; friction and other resistances; the application of mechanical principles to simple machines and to instruments.	Bowser's Analytical Mechanics. Bowser's Hydromechanics.

COURSE OF INSTRUCTION.

THIRD YEAR—SECOND CLASS—Continued.

SECOND TERM—continued.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Physics and Chemistry.</i>	4	4	<p>PHYSICS: Recitations in light and heat concluded.</p> <p>Electricity and magnetism commenced.</p> <p>Practical work in the physical laboratory; calibration of thermometers; determination of the hygrometric state of the atmosphere; measurements of the co-efficients of expansion and the specific heat and latent heat of various substances; other experiments illustrating the course of study and leading to the skilful use of instruments of precision. Photography. General experiments illustrating the phenomena of statical and voltaic electricity; setting up and comparing galvanic cells and secondary batteries; measuring their resistance and electro-motive force; calibration of galvanometers; determination of dip and horizontal intensity.</p>	<p>Same as for the first term.</p> <p>Thompson's Electricity and Magnetism.</p> <p>Ayrton's Practical Electricity.</p> <p>Day's Exercises in Electrical Measurements.*</p> <p>Lecture Notes.</p>
<i>Modern Languages.</i>	1	1½	<p>FRENCH: Reading French newspapers, and conversation on subjects of the day; themes and written translations.</p>	<p>Same as for the first term, and French newspapers.</p>

FOURTH YEAR—FIRST CLASS—LINE DIVISION.

FIRST TERM.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
Seamanship, Naval Construction, and Naval Tactics.	3	4	<p>SEAMANSHIP: Uses of compass, lead, log, and sounding machines; principles of marlinspike seamanship, including cutting, fitting, and reeving rigging; description and uses of sails, their fittings and appliances; stowage and organization; management of boats; handling sails; management under sail and under steam; turning and maneuvering, wharfing, docking, towing, piloting, anchoring, mooring, etc.; emergencies; port drills and evolutions; duties of officers and crew; routine; rules of the road; laws of storms and management in cyclones; control of behavior among waves, and performance in general.</p> <p>NAVAL CONSTRUCTION: Definitions; history and practice of shipbuilding in wood, iron, and steel; systems of construction, subdivision, and armoring; systems of pumping, draining, ventilating, steering, and hoisting; fittings in general; distribution of armor, guns, and boats; special constructions; launching; types of ships; structural strength and strains; buoyancy and stability in the intact and the damaged conditions; theory and observation of waves; rolling and pitching; principles of stowage; resistance, propulsion, and steering of ships; qualities of ships; construction and use of diagrams of qualities; the use of qualities.</p> <p>NAVAL TACTICS: Organization of the fleet; school of the ship, section, and squadron; evolutions of the fleet; signaling by Army and Navy code; Navy and International codes of flag signals.</p>	<p>Luce's Seamanship.</p> <p>Special Notes and Drawings.</p> <p>Navy Department Pamphlets.</p> <p>White's Manual of Naval Architecture.</p> <p>Thearle's Naval Architecture.</p> <p>Thearle's Theoretical Naval Architecture.</p> <p>Welch's Text-book of Naval Architecture.</p> <p>Navy and International Signal Books.</p> <p>Fleet Drill Book (Navy Department).</p>
Ordnance and Gunnery.	3	4	<p>ORDNANCE INSTRUCTIONS: Handling great guns; preparing ship for action; duties of officers and men when at quarters for exercise, and when engaged in battle; handling boat howitzers and machine guns afloat and on shore; landing of seamen and marines.</p>	<p>Ordnance Instructions.</p> <p>Text-book of Ordnance and Gunnery (Naval Academy publication).</p> <p>Gunnery Drill Book for the New Armaments. (Bureau of Ordnance publication.)</p> <p>Instructions for Infantry and Artillery, United States Navy.</p>

FOURTH YEAR—FIRST CLASS—LINE DIVISION—Continued.

FIRST TERM—continued.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Ordnance and Gunnery—Continued.</i>			<p>INFANTRY TACTICS: School of the soldier; school of the company; school of the battalion; instruction for skirmishers.</p> <p>GUNNERY: The motion of projectiles in a non-resisting medium and in air; the methods of finding the trajectory, the remaining velocity, and the angle of fall; the dangerous space; sighting and pointing guns; the errors liable to occur in practice at sea, and the methods of avoiding them; the preparation of range tables, and corrections for jump and drift; the determination of ranges at sea.</p>	<p>Instructions for Infantry and Artillery, United States Navy.</p> <p>Text-book of Ordnance and Gunnery (Naval Academy publication).</p> <p>Exterior Ballistics (Naval Academy publication).</p> <p>Ordnance Notes (Office of Naval Intelligence).</p>
<i>Astronomy, Navigation, and Surveying.</i>	4	4	<p>THE THEORY AND PRACTICE OF NAVIGATION, including instruction in the duties of the navigator, the construction and use of navigating instruments, the use of tables, and the solution of problems; determination of meridian distances.</p> <p>THEORY OF THE DEVIATION OF THE COMPASS, including the nature and causes of the several parts of deviation, the determination of the vertical and horizontal forces of the earth and ship, the causes and amount of the heeling error, the changes that take place upon a change of geographical position, the graphic representations of the amount and direction of the forces that act on the needle, and the mechanical correction of the deviation and heeling errors.</p>	<p>Chauvenet's Spherical and Practical Astronomy.*</p> <p>Walker's Navigation.</p> <p>Bowditch's Navigator.</p> <p>American Ephemeris and Nautical Almanac.</p> <p>Admiralty Manual for the Deviations of the Compass.</p>
<i>Mechanics and Applied Mathematics.</i>	3	1	METHOD OF LEAST SQUARES: The theory of least squares and probable errors; fundamental principles of the theory; practical methods and formulas; independent observations; conditioned observations.	Johnson's Method of Least Squares.
	3	3	APPLIED MECHANICS: Elasticity; stress and strain; theory of structures; strength and deflection of beams; beams of uniform resistance.	<p>Cotterill and Slade's Lessons in Applied Mechanics.</p> <p>Cotterill's Applied Mechanics.*</p>

FOURTH YEAR—FIRST CLASS—LINE DIVISION—Continued.

FIRST TERM—continued.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Physics and Chemistry.</i>	3	4	PHYSICS: Recitations in electricity and magnetism; practical work in physical laboratory; determination of the constants of galvanometers; testing ammeters and voltmeters; running dynamos and electric motors and measuring their efficiency; experiments on the electric transmission of energy; testing cables and electric light wires; experiments upon induction; practice in photography and micro photography.	Same as for the second class year. Lecture Notes.

SECOND TERM.

<i>Seamanship, Naval Construction, and Naval Tactics.</i>	4	4	Course of the first term continued.	Same as for the first term.
<i>Ordnance and Gunnery.</i>	5	4	<p>GUNNERY: Accuracy and rapidity of fire; the probability of hitting objects of various forms; the mean and probable errors of guns; derivation of rules for correcting certain errors that arise in practice at sea; the penetration and effect of projectiles.</p> <p>ORDNANCE: The manufacture of guns; description of service guns; computation of the strength and shrinkage of guns; rifling; rotation and its influence on the motion of projectiles. The manufacture and use of gunpowder and other explosives; the force developed when explosives are fired in their own volume, and the equation of motion of the projectile in the bore of a gun on this hypothesis, and also on the hypothesis that the explosive burns progressively; the laws of burning of grains of gunpowder of various forms; the formulas of Noble and Abel connecting pressures with density of loading, and for determining the work of expansion in a gun; development of the principles involved in loading guns; formulas connecting muzzle velocities and pressures with the elements of loading.</p> <p>GUN CARRIAGES: Their construction and the mechanism employed in controlling and adjusting recoil, and the theory of such control</p> <p>AMMUNITION: Its preparation and use.</p>	<p>Text-book of Ordnance and Gunnery (Naval Academy publication).</p> <p>The Elastic Strength of Guns (Naval Academy publication).</p> <p>Interior Ballistics (Naval Academy publication).</p> <p>Accuracy and Probability of Fire (Naval Academy publication).</p> <p>Nomenclature of steel B. L. R. guns and carriages, and mounts for Hotchkiss guns. (Bureau of Ordnance.)</p>

FOURTH YEAR—FIRST CLASS—LINE DIVISION—Continued.

SECOND TERM—continued.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Astronomy, Navigation, and Surveying.</i>	4	4	<p>THEORY OF THE DEVIATION OF THE COMPASS: Course of the first term continued.</p> <p>HYDROGRAPHIC SURVEYING: The instruments used; selection and measurement of bases; determination of azimuth of base; triangulation; determination of heights; leveling; plotting a survey; hydrographical surveying; tidal observations; current observations; sailing directions; the form of the earth, with special reference to the construction of charts; projections; running surveys; PRACTICAL NAVIGATION.</p>	<p>Admiralty Manual for the Deviations of the Compass.</p> <p>Chauvenet's Spherical and practical Astronomy.*</p> <p>Phelps's Practical Marine Surveying.</p> <p>Projection Tables.</p>
<i>English Studies, History, and Law.</i>	2	4	<p>INTERNATIONAL LAW: The objects, sources, and sanctions of international law; the laws of war, embargo, reprisal, and retortion; blockade; contraband of war; right of search; ship's papers and nationality; prizes; privateering; piracy; the rights and duties of neutrals; jurisdiction over vessels at sea and in territorial waters; fugitives and deserters; licenses to trade; recaptures.</p>	<p>Glass's Marine International Law.</p>
	$\frac{1}{4}$	4	<p>SPECIAL INSTRUCTION: General description of the human body and its functions; the arrest of hemorrhage; resuscitation from drowning; alcoholic drinks, tobacco, and other narcotics. (Lectures and practical instruction, Fridays, 7.30 to 9.30 p. m., additional.)</p>	<p>Martin's The Human Body and the Effects of Narcotics.</p>

FOURTH YEAR—FIRST CLASS—ENGINEER DIVISION—Continued.

FIRST TERM—continued.

Department.	Number of recitations a week.	Number of months.	Subjects.	Text-books.
<i>Steam Engineering—Continued.</i>	3	4	DESIGNING MACHINERY: The strains to which machinery is subjected, and the resistance offered to these strains; relative value of materials used in machinery as to cost and strength; testing materials; principles and considerations governing the design, drawing, specifications, and proportions of the various parts of engines and boilers, with practical application in the designing room.	Unwin's Elements of Machine Design—Parts I and II. Wilson's Steam Boilers. Shock's Steam Boilers.*
<i>Mechanics and Applied Mathematics.</i>	3	4	Same as for the line division.	Same as for the line division.
<i>Physics and Chemistry.</i>	3	4	Same as for the line division.	Same as for the line division.

SECOND TERM.

<i>Seamanship, Naval Construction, and Naval Tactics.</i>	2	4	Course of the first term continued.	Same as for the first term.
<i>Steam Engineering.</i>	2	4	MARINE ENGINES: Course of the first term continued. Physical properties of steam; convertability of heat and work; theory of the steam engine; air and heat engines; efficiency of an engine; theoretical considerations governing the expansion of steam; effects of clearance, wire drawing, jacketing, liquefaction, and re-evaporation; experiments on the steam engine and the methods of determining its efficiency.	Seaton's Marine Engineering. Thurston's Engine and Boiler Trials. Cotterill's Steam Engine Considered as a Heat Machine.
	3	4	BOILERS: Course of the first term continued.	Same as for the first term.
	4	4	DESIGNING MACHINERY: Course of the first term continued.	Same as for the first term.
<i>Mechanics and Applied Mathematics.</i>	3	4	APPLIED MECHANICS: Kinematics and dynamics of machines; transmission and conversion of energy by fluids.	Cotterill's Applied Mechanics. Cotterill and Slade's Lessons in Applied Mechanics. Bowser's Hydromechanics.
	$\frac{1}{2}$	4	SPECIAL INSTRUCTION: Same as for the line division.	Same as for the line division.

ASSIGNMENT OF TIME.

Departments.	Fourth class.		Third class.		Second class.		First class, line division.		First class, engineer division.	
	1st term.	2d term.	1st term.	2d term.	1st term.	2d term.	1st term.	2d term.	1st term.	2d term.
Seamanship, Naval Construction, and Naval Tactics.....					1	1	3	4	2	3
Ordnance and Gunnery.....							3	5		
Astronomy, Navigation, and Surveying.....						2	4	4		
Steam Engineering.....					3	3			8	9
Mechanics and Applied Mathematics.....					5	5	3		3	3
Physics and Chemistry.....				5 F	4	4	3		3	
Mathematics.....	6	5	5	5						
English Studies, History, and Law.....	5	5	4					2		
Modern Languages.....	5	5½	3	2	1 F	¼ F				
Mechanical Drawing.....			4	3½	2					

SPECIAL INSTRUCTION.

The effects of alcohol, tobacco, and other narcotics.....		¼ F		¼ F
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F Friday 7:30 to 9:30 p. m.

PROGRAMME OF RECITATIONS.

FIRST TERM.

Departments.	Fourth class.	Third class.	Second class.	First class, line division.	First class, engineer division.
Astronomy, Navigation, and Surveying-----	M. T. W. Th. F. (2)-----	M. F. S. (1), T. (3)-----		M. (3), W. F. S. (1)-----	
English Studies, History, and Law-----	M. T. W. Th. F. S. (1)-----	M. T. W. Th. F. (2)-----			
Mathematics-----		M. W. Th. F. (3)-----	T. (3), S. (1)-----		
Mechanical Drawing-----			M. T. W. Th. F. (1)-----	M. W. F. (2)-----	M. W. F. (2)-----
Mechanics and Applied Mathematics-----			M. (2), F. (7:30 to 9:30 p.m.)*		
Modern Languages-----	M. T. W. Th. F. (3)-----	T. W. Th. (1)-----		T. Th. (2), F. (3)-----	
Ordnance and Gunnery-----			T. W. Th. F. (2)-----	M. T. Th. (1)-----	M. T. Th. (1)-----
Physics and Chemistry-----			M. (3)-----	T. W. Th. (3)-----	T. W. (3)-----
Seamanship, Naval Construction, and Naval Tactics-----					{ W. F. S. (1), T. Th. (2), M. Th. F. (3). }
Steam Engineering-----			W. Th. F. (3)-----		

SECOND TERM.

Astronomy, Navigation, and Surveying-----			W. F. (3)-----	M. T. Th. F. (1)-----	
English Studies, History, and Law-----	M. T. W. Th. F. (3)-----			W. (1), F. (2)-----	
Mathematics-----	M. T. W. Th. F. (1)-----	M. T. W. Th. F. (2)-----			
Mechanical Drawing-----		M. (1), T. F. (3), S. (1)†-----			
Mechanics and Applied Mathematics-----			M. T. W. Th. F. (1)-----		T. Th. F. (2)-----
Modern Languages-----	M. T. W. Th. F. (2), S. (1)†-----	W. Th. (3)-----	S. (1),†, F. (7:30 to 9:30 p.m.)*		
Ordnance and Gunnery-----		{ M. (3), T. W. Th. F. (1), } F. (7:30 to 9:30 p.m.)* }	M. T. Th. F. (2)-----	M. T. W. Th. (2), F. (3)-----	
Physics and Chemistry-----			W. (2)-----		
Seamanship, Naval Construction, and Naval Tactics-----				M. T. W. Th. (3)-----	M. W. Th. (3)-----
Steam Engineering-----			M. T. Th. (3)-----		{ M. T. W. Th. F. (1), M. W. (2), T. F. (3). }
Special Instruction (Physiology and Hygiene)-----					S. (1)† + F. (7:30 to 9:30 p.m.)*

* Lectures and practical instruction.

† Saturday period, second term, from January 31 to March 10.

TABLE OF CO-EFFICIENTS.

Department and subjects.	Fourth class.	Third class.	Second class.	First class, line division.	First class, engineer division.	Maxima for four years, line division.	Maxima for four years, engineer division.	Maxima for final graduation, line division.	Maxima for final graduation, engineer division.
Discipline -----	4	8	12	16	16	160	160		
<i>Seamanship, Naval Construction, and Naval Tactics.</i>									
Seamanship, Ship Building, and Naval Tactics -----			3	13	8		44	56	32
Cruise Reports, Navigation Note Books, Journals, and Station Bills -----								24	36
Practice Cruise -----				2		72			
<i>Ordnance and Gunnery.</i>									
Ordnance Instructions, Infantry Tactics, and Gunnery -----				} *15		60		44	
Ordnance and Gunnery -----									
<i>Astronomy, Navigation, and Surveying.</i>									
Astronomy, Navigation, and Surveying -----			3	12			12	44	
Practice Cruise -----				2		68			
<i>Steam Engineering.</i>									
Steam Machinery, Marine Engines, and Boilers -----			8					20	
Summer Practical Work -----			3		5	44			
Marine Engines -----					10				88
Designing Machinery -----					12				
Boilers -----					8		184		56
<i>Mechanics and Applied Mathematics.</i>									
Differential and Integral Calculus, and Mechanics -----			12						
Least Squares and Strength of Materials -----				5	5	68			
Mechanics -----					5		88		
<i>Physics and Chemistry</i>									
Chemistry and Physics -----		5							
Physics -----			10	5	5	80	80		
<i>Mathematics.</i>									
Algebra and Geometry -----	5								
Trigonometry, Analytical Geometry, and Descriptive Geometry -----		10				60	60		
<i>English Studies, History, and Law.</i>									
English and History -----	5								
English and Law -----		4					36		
International Law -----				4		52		24	
<i>Modern Languages.</i>									
French, Spanish, and German -----	5	5	3			52	62	28	28
<i>Mechanical Drawing.</i>									
Mechanical Drawing -----		6	3			36	36		
<i>Miscellaneous.</i>									
Special Instruction (Physiology and Hygiene) -----				2	2	8	8		
Maxima for each class -----	76	152	228	304	304	760	760	240	240

* In making up the standing for a year the second term is given double the weight of the first term.

PRACTICAL INSTRUCTION OF CADETS.

SEAMANSHIP.

Knotting and splicing; compass and lead line; ship nomenclature; cutting and fitting hemp rigging; cutting and fitting wire rigging; rowing, and the management of boats under oars and under sail; sail making; making up, bending, unbending, and handling sails; rigging ship; stripping ship; shifting spars; getting under way and anchoring; evolutions with vessels under sail and under steam; signaling, Army and Navy code; management of steam launches; steam fleet tactics with steam launches.

ORDNANCE AND GUNNERY.

Setting up drill; school of the soldier; school of the company; school of the battalion (infantry); skirmish drill; school of the battery; school of the battalion (artillery); exercises with broadside guns, pivot guns, monitor guns, boat howitzers, and machine guns; target practice with small-arms; target practice afloat with machine guns, rifled howitzers, Hotchkiss rapid-fire guns, and great guns; small-sword exercise; broad-sword exercise; bayonet exercise; cane exercise; handling and firing torpedoes; handling and preparing fuzes for use; determination of the strength and elasticity of gun-metal with testing machine; determination of muzzle velocities with the Schultz chronoscope; determination of pressures in guns by means of pressure gauges; experimental determination of range tables, also of the jump and the draft; the preparation and inspection of ordnance material.

Two gold medals are awarded annually for marksmanship; one to the cadet of the first class who excels in great-gun practice, and one to the cadet of the second class who excels in practice with the service rifle and revolver.

In June, 1891, the great-gun medal was awarded to Cadet Richard M. Watt, of Pennsylvania. The practice was from the steamer *Standish*, at ranges varying from 1,100 yards to 1,500 yards, with the Hotchkiss 3-pounder and 6-pounder rapid-fire guns. The best scores were:

	Score.	Possible maximum.
* Cadet Watt -----	120	120
Cadet Lane -----	120	120

* Cadet Watt won in shooting off the tie by a score of 60 to 42 made by Cadet Lane out of a possible 60.

The scoring was on the service-vertical target.

In December, 1891, the small-arms medal was awarded to Cadet Upham, of Montana. The targets used were the Army A and B for the Hotchkiss rifle, and a rectangle 18 by 24 inches for the revolver. The score was as follows:

	Distance.	Per cent. of the maximum.
	<i>Yards.</i>	
On shore, A target -----	170	69
From boat, B target -----	300	70
	<i>Paces.</i>	
Revolver, 18 by 24 inch target -----	30	97

PRACTICAL INSTRUCTION OF CADETS.

ASTRONOMY, NAVIGATION, AND SURVEYING.

Navigation: Observations, with sextant and artificial horizon, for time, longitude, chronometer correction, latitude, and azimuth.

Surveying: Surveying, and constructing a chart of, a portion of the Severn River.

Compass Deviations: Swinging an iron ship, and observing the deviations and the times of vibration of horizontal and vertical needles on different courses; from these observations finding the approximate and the exact co-efficients, and the horizontal and the vertical forces acting on the standard and steering compasses; also finding the heeling co-efficients for the same compasses without heeling the ship; also correcting the deviations of a compass, using a Navy compensating binnacle.

STEAM ENGINEERING.

Vise-bench work; forging; boiler making; pattern-making; machine-tool work; taking apart and putting together engines; running engines of launches, vessels, and monitors.

PHYSICAL TRAINING.

Class drills in calisthenics, free movements and with apparatus.
Special exercises to promote symmetrical development when necessary. Athletic exercises, including boxing and swimming. Dancing.

PROGRAMME OF PRACTICAL INSTRUCTION.

When more than one kind of exercise is prescribed during a week the number of each exercise is indicated by a figure in parenthesis.

FIRST CLASS.

Academic months.	Weeks.	First division.	Second division.	Third division.	Fourth division.
October ----	1	Company (4). Monitor (1).	Company (4). Monitor (1).	Target great guns (4). Monitor (1).	Steam tactics (4). Monitor (1).
	2	Battery (4). Monitor (1).	Battery (4). Monitor (1).	Steam tactics (4). Monitor (1).	Target great guns (4). Monitor (1).
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Target great guns (4). Monitor (1).	Steam tactics (4). Monitor (1).	Company (4). Monitor (1).	Company (4). Monitor (1).
November--	1	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	2	Steam tactics (4). Monitor (1).	Target great guns (4). Monitor (1).	Battery (4). Monitor (1).	Battery (4). Monitor (1).
	3	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	4	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
December*	1	Broadsword.	Steam.	Broadsword.	Steam.
	2	Steam.	Broadsword.	Steam.	Broadsword.
	3	Broadsword.	Steam.	Broadsword.	Steam.
January *	1	Steam.	Broadsword.	Steam.	Broadsword.
	2	Small sword.	Steam.	Practical ordnance.	Steam.
	3	Steam.	Small sword.	Steam.	Practical ordnance.
	4	Practical ordnance.	Steam.	Small sword.	Steam.
	5	SEMI-ANNUAL EXAMINATION.			
February *	1	Steam.	Practical ordnance.	Steam.	Small sword.
	2	Broadsword.	Steam.	Seamanship.	Steam.
	3	Steam.	Broadsword.	Steam.	Seamanship.
	4	Seamanship.	Steam.	Broadsword.	Steam.
March ----	1	Steam.	Seamanship.	Steam.	Broadsword.
	2	Deviation compass (4). Seamanship (1).	Deviation compass (4). Seamanship (1).	Deviation compass (4). Seamanship (1).	Deviation compass (4). Seamanship (1).
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	General quarters.	General quarters.	General quarters.	General quarters.
April ----	1	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	2	Target great guns (4). General quarters (1).	Skirmish (4). General quarters (1).	Steam tactics (4). General quarters (1).	Torpedoes (4). General quarters (1).
	3	Skirmish (4). Seamanship (1).	Target great guns (4). Seamanship (1).	Torpedoes (4). Seamanship (1).	Steam tactics (4). Seamanship (1).
	4	Steam tactics (4). Seamanship (1).	Torpedoes (4). Seamanship (1).	Target great guns (4). Seamanship (1).	Skirmish (4). Seamanship (1).
May ----	1	Torpedoes (4). General quarters (1).	Steam tactics (4). General quarters (1).	Skirmish (4). General quarters (1).	Target great guns (4). General quarters (1).
	2	Battalion infantry (4). Seamanship (1).	Battalion infantry (4). Seamanship (1).	Battalion artillery (4). Seamanship (1).	Battalion infantry (4). Seamanship (1).
	3	Battalion artillery (3). Seamanship (3).	Battalion artillery (3). Seamanship (3).	Battalion artillery (3). Seamanship (3).	Battalion artillery (3). Seamanship (3).
	4	Steam tactics (3). General quarters (3).	Steam tactics (3). General quarters (3).	Steam tactics (3). General quarters (3).	Steam tactics (3). General quarters (3).
	5				
	M.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	T.	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
	W.	General quarters.	General quarters.	General quarters.	General quarters.
	Th.	Steam tactics.	Steam tactics.	Steam tactics.	Steam tactics.
	F.	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	S.	Seamanship.	Seamanship.	Seamanship.	Seamanship.
June 1 to 10. ----		ANNUAL EXAMINATION.			
June 10 to August 28. } ----		Practice cruise.			

*During the months of December, January, and February, two (2) Saturday drill periods are devoted to battalion infantry, in place of the schedule detail drills.

SECOND CLASS.

Academic months.	Weeks.	First division.	Second division.	Third division.	Fourth division.
October ----	1 2 3 4	Company. Battery. Seamanship. Target machine guns.	Company. Battery. Seamanship. Steam launches.	Target machine guns. Steam launches. Seamanship. Company.	Steam launches. Target machine guns. Seamanship. Company.
November -	1 2 3 4	Seamanship. Steam launches. Battalion infantry. Battalion artillery.	Seamanship. Target machine guns. Battalion infantry. Battalion artillery.	Seamanship. Battery. Battalion infantry. Battalion artillery.	Seamanship. Battery. Battalion infantry. Battalion artillery.
December*.	1 2 3 4	Small sword. Steam. Navy signals.	Steam. Small sword. Steam.	Navy signals. Steam. Small sword.	Steam. Navy signals. Steam.
January *--	1 2 3 4	Steam. Broadsword. Steam. Signals.	Navy signals. Steam. Broadsword. Steam.	Steam. Signals. Steam. Broadsword.	Small sword. Steam. Signals. Steam.
SEMI-ANNUAL EXAMINATION.					
February *	1 2 3 4	Steam. Small sword. Steam. Practical ordnance.	Signals. Steam. Small sword. Steam.	Steam. Practical ordnance. Steam. Small sword.	Broadsword. Steam. Practical ordnance. Steam.
March -----	1 2 3 4	Steam. Broadsword (4). Seamanship (1). Seamanship.	Practical ordnance. Broadsword (4). Seamanship (1). Seamanship.	Steam. Broadsword (4). Seamanship (1). Seamanship.	Small sword. Broadsword (4). Seamanship (1). Seamanship.
April -----	1 2 3 4	General quarters. Seamanship. Target great guns (4). General quarters (1).	General quarters. General quarters. Skirmish (4). General quarters (1).	General quarters. Seamanship. Steam tactics (4). General quarters (1).	General quarters. Seamanship. Small sword (4). General quarters (1).
May -----	1 2 3 4 5 M. T. W. Th. F. S.	Seamanship (1). Steam tactics (4). Seamanship (1). Small sword (4). General quarters (1). Battalion infantry (4). Seamanship (1). Battalion artillery (3). Seamanship (3). Seamanship (3). General quarters (3). Battalion infantry. Battalion artillery. General quarters. Small sword. Battalion infantry. Seamanship.	Seamanship (1). General quarters. Target great guns (4). Seamanship (1). Small sword (4). Seamanship (1). Steam tactics (4). General quarters (1). Battalion infantry (4). Seamanship (1). Battalion artillery (3). Seamanship (3). Seamanship (3). General quarters (3). Battalion infantry. Battalion artillery. General quarters. Small sword. Battalion infantry. Seamanship.	Seamanship (1). General quarters. Small sword (4). Target great guns (4). Seamanship (1). Skirmish (4). General quarters (1). Battalion infantry (4). Seamanship (1). Battalion artillery (3). Seamanship (3). Seamanship (3). General quarters (3). Battalion infantry. Battalion artillery. General quarters. Small sword. Battalion infantry. Seamanship.	Seamanship (1). General quarters. Small sword (4). Target great guns (4). Seamanship (1). Skirmish (4). General quarters (1). Battalion infantry (4). Seamanship (1). Battalion artillery (3). Seamanship (3). Seamanship (3). General quarters (3). Battalion infantry. Battalion artillery. General quarters. Small sword. Battalion infantry. Seamanship.
June 1 to 10	ANNUAL EXAMINATION.				

*During the months of December, January, and February, two (2) Saturday drill periods are devoted to battalion infantry, in place of the scheduled detail drills.

SECOND CLASS.

Summer months.	Week	First division.	Second division.	Third division.	Fourth division.
	1	Machine shop a. m. Target machine guns p. m.	Machine shop a. m. Howitzers afloat p. m.	Machine shop a. m. Signals p. m.	Machine shop a. m. Target howitzers p. m.
	2	Machine shop a. m. Target howitzers p. m.	Machine shop a. m. Target machine guns p. m.	Machine shop a. m. Howitzers afloat p. m.	Machine shop a. m. Signals p. m.
	3	Machine shop a. m. Signals p. m.	Machine shop a. m. Target howitzers p. m.	Machine shop a. m. Target machine guns p. m.	Machine shop a. m. Howitzers afloat p. m.
	4	Running steam cutters a. m. Howitzers afloat p. m.	Running steam cutters a. m. Signals p. m.	Running steam cutters a. m. Target howitzers p. m.	Running steam cutters a. m. Target machine guns p. m.
	5	Machine shop a. m. Boats p. m.	Machine shop a. m. Boats p. m.	Machine shop a. m. Boats p. m.	Machine shop a. m. Boats p. m.
	6	Machine shop a. m. Target great guns p. m.	Machine shop a. m. Target small arms p. m.	Machine shop a. m. Boats p. m.	Machine shop a. m. Steam tactics p. m.
	7	Machine shop a. m. Steam tactics p. m.	Machine shop a. m. Target great guns p. m.	Machine shop a. m. Target small arms p. m.	Machine shop a. m. Boats p. m.
	8	Machine shop a. m. Boats p. m.	Machine shop a. m. Steam tactics p. m.	Machine shop a. m. Target great guns p. m.	Machine shop a. m. Target small arms p. m.
	9	Machine shop a. m. Target small arms p. m.	Machine shop a. m. Boats p. m.	Machine shop a. m. Steam tactics p. m.	Machine shop a. m. Target great guns p. m.
	10	Machine shop a. m. Boats p. m.	Machine shop a. m. Boats p. m.	Machine shop a. m. Boats p. m.	Machine shop a. m. Boats p. m.

THIRD CLASS.

Academic months.	Weeks.	First division.	Second division.	Third division.	Fourth division.
October ----	1 2 3 4	Company. Battery. Seamanship. Boats.	Company. Battery. Seamanship. Boats.	Boats. Boats. Seamanship. Company.	Boats. Boats. Seamanship. Company.
November -	1 2 3 4	Seamanship. Boats. Battalion infantry. Battalion artillery.	Seamanship. Boats. Battalion infantry. Battalion artillery.	Seamanship. Battery. Battalion infantry. Battalion artillery.	Seamanship. Battery. Battalion infantry. Battalion artillery.
December*	1 2 3 4	Small sword. Rigging loft. Broadside guns.	Seamanship. Small sword. Rigging loft.	Broadside guns. Seamanship. Small sword.	Rigging loft. Broadside guns. Seamanship.
January *	1 2 3 4	Seamanship. Small sword. Rigging loft. Pivot guns.	Broadside guns. Target small arms. Small sword. Rigging loft.	Rigging loft. Pivot guns. Target small arms. Small sword.	Small sword. Rigging loft. Pivot guns. Target small arms.
	5	SEMI-ANNUAL EXAMINATION.			
February *	1 2 3 4	Target small arms. Small sword. Rigging loft. Army signals.	Pivot guns. Target pistol. Small sword. Rigging loft.	Rigging loft. Army signals. Target pistol. Small sword.	Small sword. Rigging loft. Army signals. Target pistol.
March ----	1 2 3 4	Target pistol. Company (4). Seamanship (1). Seamanship.	Army signals. Rigging loft. Seamanship (1). Seamanship.	Rigging loft. Company (4). Seamanship (1). Seamanship.	Small sword. Company (4). Seamanship (1). Seamanship.
April ----	1 2 3 4	General quarters. Seamanship. Target small arms (4). General quarters (1).	General quarters. Seamanship. Skirmish (4). General quarters (1).	General quarters. Seamanship. Seamanship (4). General quarters (1).	General quarters. Seamanship. Boats (4). General quarters (1).
	1 2 3 4	Skirmish (4). Seamanship (1). Seamanship.	Target small arms (4). Seamanship (1). Boats (4).	General quarters (1). Seamanship (1). Target small arms (4).	General quarters (1). Seamanship (1). Skirmish (4).
May ----	1 2 3 4	Boats (4). General quarters (1). Battalion infantry (4). Seamanship (1).	Seamanship (1). General quarters (1). Battalion infantry (4). Seamanship (1).	Seamanship (1). General quarters (1). Battalion infantry (4). Seamanship (1).	Seamanship (1). General quarters (1). Battalion infantry (4). Seamanship (1).
	1 2 3 4	Battalion artillery (3). Seamanship (3). Small sword (3). General quarters (3).	Battalion artillery (3). Seamanship (3). Small sword (3). General quarters (3).	Battalion artillery (3). Seamanship (3). Small sword (3). General quarters (3).	Battalion artillery (3). Seamanship (3). Small sword (3). General quarters (3).
	5 M. T. W. Th. F. S.	Battalion infantry. Battalion artillery. General quarters. Boats. Battalion infantry. Seamanship.	Battalion infantry. Battalion artillery. General quarters. Boats. Battalion infantry. Seamanship.	Battalion infantry. Battalion artillery. General quarters. Boats. Battalion infantry. Seamanship.	Battalion infantry. Battalion artillery. General quarters. Boats. Battalion infantry. Seamanship.
June 1 to 10		ANNUAL EXAMINATION.			
June 10 to August 28.	}	Practice cruise.			

*During the months of December, January, and February, two (2) Saturday drill periods are devoted to battalion infantry in place of the schedule detail drills.

FOURTH CLASS.

Academic Months.	Weeks.	First division.	Second division.	Third division.	Fourth division.
October----	1	Company.	Company.	Boats.	Boats.
	2	Battery.	Battery.	Boats.	Boats.
	3	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	4	Boats.	Boats.	Company.	Company.
November--	1	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	2	Boats.	Boats.	Battery.	Battery.
	3	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	4	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
December*-	1	Dancing.	Gymnastics.	Broadside guns.	Rigging loft.
	2	Rigging loft.	Dancing.	Gymnastics.	Broadside guns.
	3	Pivot guns.	Rigging loft.	Dancing.	Gymnastics.
	4				
January *-	1	Gymnastics.	Pivot guns.	Rigging loft.	Dancing.
	2	Dancing.	Gymnastics.	Pivot guns.	Rigging loft.
	3	Rigging loft.	Dancing.	Gymnastics.	Pivot guns.
	4	Broadside guns.	Rigging loft.	Dancing.	Gymnastics.
	5	SEMI-ANNUAL EXAMINATION.			
February *	1	Gymnastics.	Broadside guns.	Rigging loft.	Dancing.
	2	Dancing.	Gymnastics.	Dancing.	Rigging loft.
	3	Rigging loft.	Dancing.	Gymnastics.	Dancing.
	4	Dancing.	Rigging loft.	Dancing.	Gymnastics.
March-----	1	Gymnastics.	Dancing.	Rigging loft.	Dancing.
	2	Company (4).	Company (4).	Company (4).	Company (4).
	3	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
	4	General quarters.	General quarters.	General quarters.	General quarters.
April-----	1	Seamanship.	Seamanship.	Seamanship.	Seamanship.
	2	Gymnastics (4).	Skirmish (4).	Seamanship (4).	Boats (4).
	3	General quarters (1).	General quarters (1).	General quarters (1).	General quarters (1).
	4	Skirmish (4).	Gymnastics (4).	Boats (4).	Seamanship.
		Seamanship (1).	Seamanship (1).	Seamanship (1).	Skirmish (4).
		Seamanship.	Boats (4).	Gymnastics (4).	Seamanship (1).
May-----	1	Boats (4).	Seamanship (1).	Seamanship (1).	Gymnastics (4).
	2	General quarters (1).	General quarters (1).	General quarters (1).	General quarters (1).
	3	Battalion infantry (4).	Battalion infantry (4).	Battalion infantry (4).	Battalion infantry (4).
	4	Seamanship (1).	Seamanship (1).	Seamanship (1).	Seamanship (1).
	5	Battalion artillery (3).	Battalion artillery (3).	Battalion artillery (3).	Battalion artillery (3).
	6	Seamanship (3).	Seamanship (3).	Seamanship (3).	Seamanship (3).
	7	General quarters (3).	General quarters (3).	General quarters (3).	General quarters (3).
	8				
	9	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	10	Battalion artillery.	Battalion artillery.	Battalion artillery.	Battalion artillery.
	11	General quarters.	General quarters.	General quarters.	General quarters.
	12	Boats.	Boats.	Boats.	Boats.
	13	Battalion infantry.	Battalion infantry.	Battalion infantry.	Battalion infantry.
	14	Seamanship.	Seamanship.	Seamanship.	Seamanship.
June 1 to 10.	ANNUAL EXAMINATION.				
June 10 to August 28.		Practice cruise.			
Sept-----	1	School of soldier.†	School of soldier.†	School of soldier.†	School of soldier.†
	2	School of soldier.†	School of soldier.†	School of soldier.†	School of soldier.†
	3	School of soldier.†	School of soldier.†	School of soldier.†	School of soldier.†
	4	Sch. sec. howitzer.	Sch. sec. howitzer.	Sch. sec. howitzer.	Sch. sec. howitzer.
	5	School of soldier.†	School of soldier.†	School of soldier.†	School of soldier.†
	6	Sch. sec. howitzer.	Sch. sec. howitzer.	Sch. sec. howitzer.	Sch. sec. howitzer.

* During the months of December, January, and February, two (2) Saturday drill periods are devoted to battalion infantry in place of the schedule detail drills.

† Swimming daily.

SUMMARY OF PRACTICAL INSTRUCTION.

Kind of instruction.	During the academic year.				Total number of instructions during academic year.	During summer months.				During month of September, fourth class.	Total number of instructions, exclusive of practice cruise.
	First class.	Second class.	Third class.	Fourth class.		First class.	Second class.	Third class.	Fourth class.		
Seamanship, including stripping and rigging <i>Enterprise</i>	33	30	37	35	135	(*)		(*)	(*)		135
Rigging loft.....			15	15	30						30
Boats under oars, or sail.....	12	4	15	15	30	(*)	15	(*)	(*)		45
Naval tactics with steam launches.....		5			16	(*)	3				21
Navy signals, day.....					5						8
Navy signals, night.....						(*)	3				3
Army signals, day.....		5	5		10		2				12
Army signals, night.....							2				2
Monitor, with great gun practice.....	4				4						4
General quarters.....	7	7	7	7	28	(*)		(*)	(*)		28
General quarters, with target practice.....	4	4	4	4	16	(*)		(*)	(*)		16
Target practice, great guns.....	8	4			12		5				17
Pivot guns.....			5	5	10						10
Broadside guns.....			5	5	10	(*)		(*)	(*)		10
Torpedoes.....	4				4						4
Practical ordnance.....	5	5			10						10
Howitzers aloft.....							5				5
Target practice, howitzers.....							5				5
School of section.....										10	10
School of battery.....	4	5	5	5	19						19
School of battalion artillery.....	9	9	9	9	36						36
Target practice, machine guns.....		5			5		5				10
Target practice, small-arms.....			9		9		5				14
Target practice, pistols.....			5		5						5
School of the soldier.....										24	24
School of the company.....	4	5	9	9	27						27

* Practice cruise.

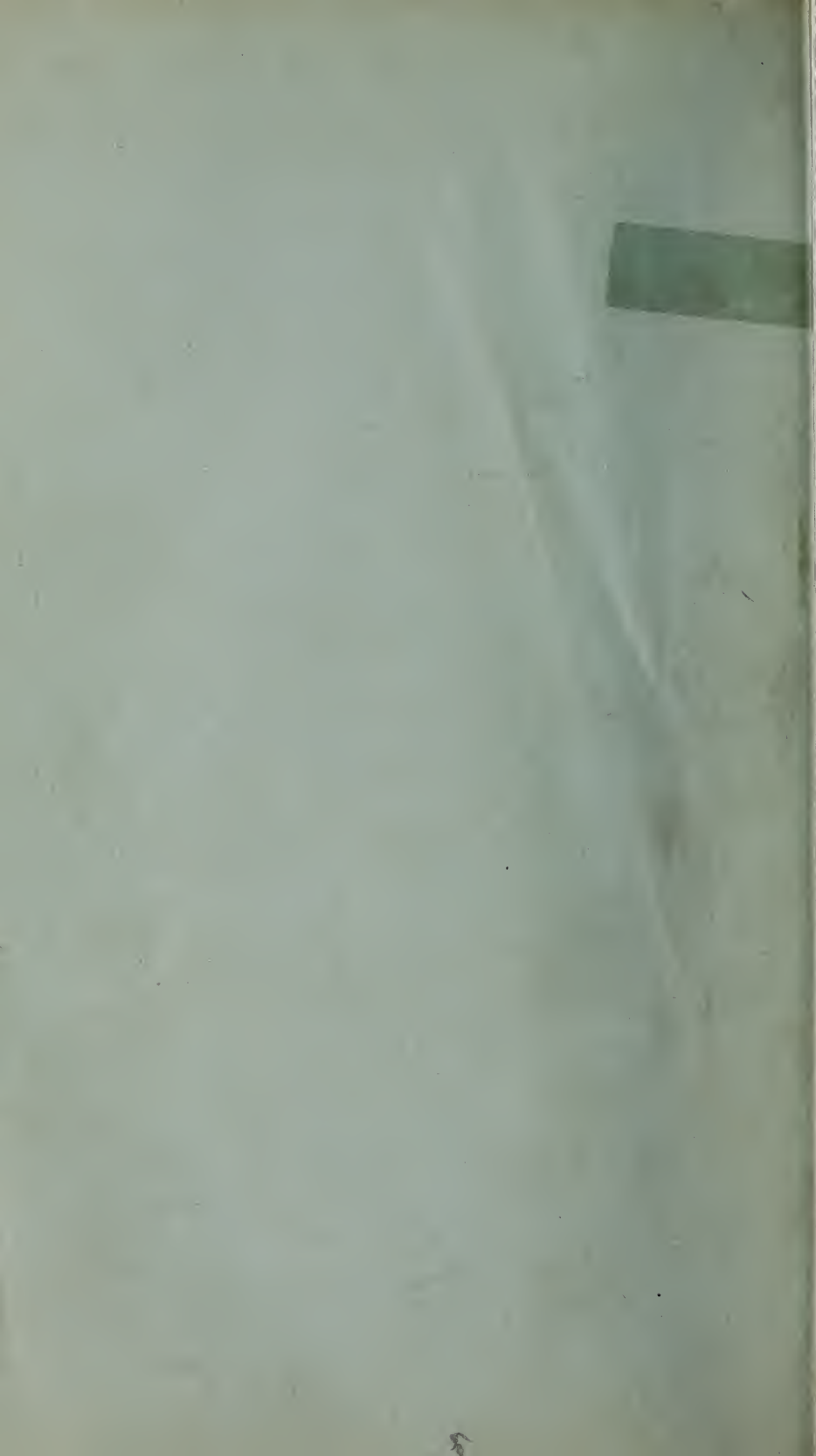
SUMMARY OF PRACTICAL INSTRUCTION--Continued.

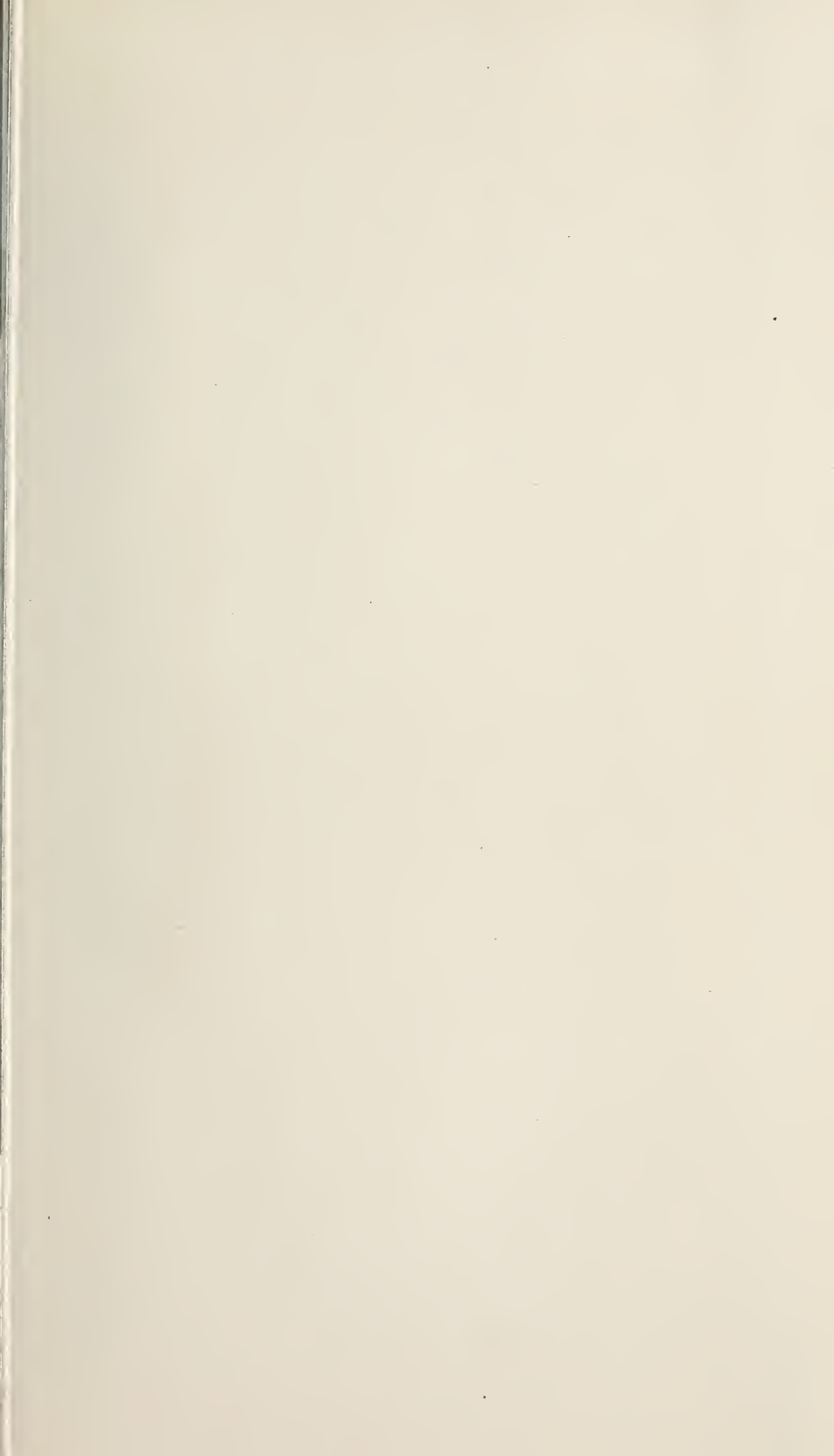
Kind of instruction.	During the academic year.				Total number of instructions during academic year.	During summer months.				During month of September, fourth class.	Total number of instructions, exclusive of practice cruise.
	First class.	Second class.	Third class.	Fourth class.		First class.	Second class.	Third class.	Fourth class.		
School of the battalion, infantry	11	11	11	11	44						44
Skirmish drill	4	4	4	4	16						16
Breadsword	15	9			24						24
Small sword	5	15	18		38						38
Practical instruction in deviation of compass	4				4	(*)					4
Practical instruction, navigation	† 14					(*)					† 14
Practical instruction, surveying	† 10										† 10
Machine shop and running shop engines	30 and † 13	30			60		54				114 and † 13
Running steam launches		5			5		6				11
Practical instruction in chemistry			† 13								† 13
Gymnastics and boxing				19	19						19
Swimming										24	24
Dancing				20	20						20

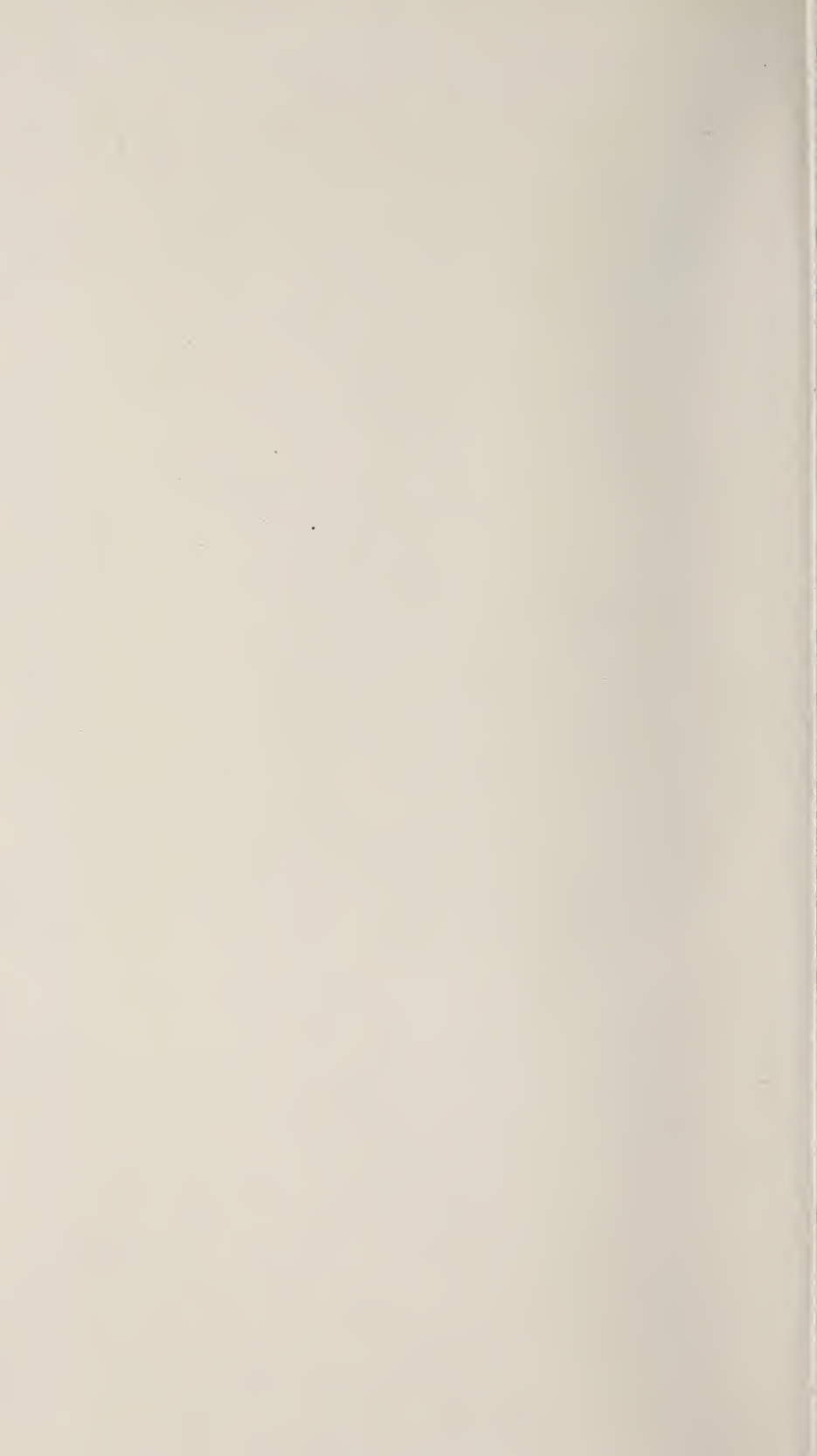
* Practice cruise.

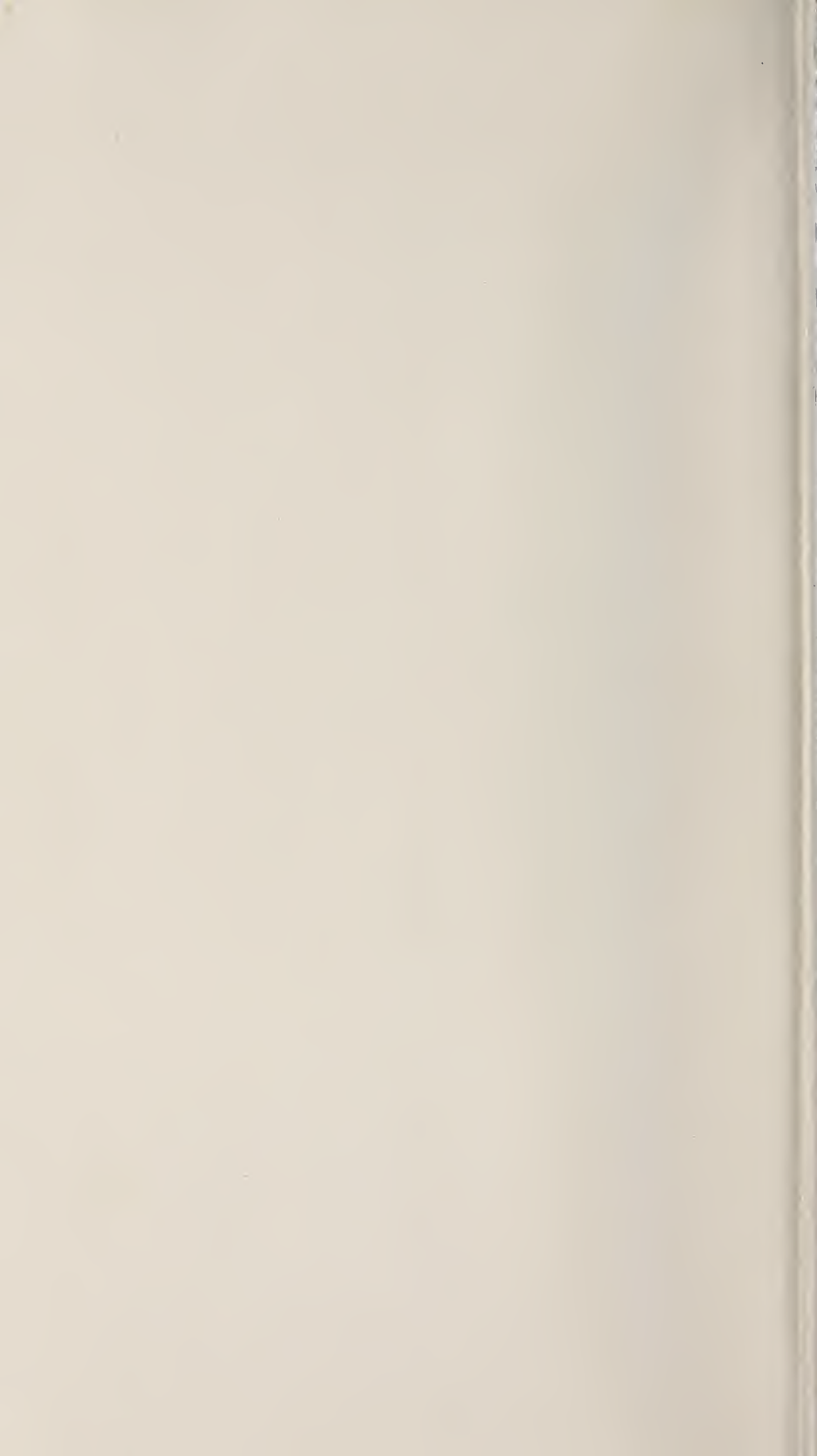
† Study periods.

The instructions in seamanship and gunnery on board of the *Enterprise*, *Pascia*, and *Standish* are also made instructions in running and managing the engines and boilers of those vessels. The instructions in naval tactics are also made instructions in running and managing the engines and boilers of the steam launches when practicable.









Annual register

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